PHILADELPHIA, SEPTEMBER 6, 1884.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON THE DISEASES OF WOMEN.

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(Reported for the *Philadelphia Medical Times*.)

OPERATION FOR SUPPURATING CYST.

GENTLEMEN,—The case of ovariotomy which you saw at the Woman's Hospital last Thursday afternoon was in some respects a peculiar one. The patient, aged 18 and unmarried, had entered the hospital, February 27, with what seemed to be a simple fibroid tumor of the uterus, as nothing further than a small hard mass could be felt, and the patient had suffered from metrorrhagia. The tumor grew rapidly, and she had vomiting and pain, with a temperature of from 102° to 104°, in spite of the constant use of the cold coil and large doses of quinine. There was evidently septic poisoning, and the tumor began to manifest slight fluctuation, as if it consisted of a very tense and thick cyst. I made up my mind that such was its nature, and that there was inflammation and suppuration going on within its walls. Dr. Emmet saw the patient on Tuesday afternoon, and agreed in the diagnosis, and thought that an operation should be done immediately. Dr. Thomas saw her on Wednesday, and said that an operation was imperatively called for. I performed the operation on Thursday, and when I punctured the cyst a quantity of horribly fetid pus escaped. The cyst was closely attached to the omentum, the intestines, and the walls of the pelvis, and almost completely surrounded the uterus. I therefore made no prolonged attempt to remove the cyst, but washed it out thoroughly with Davidson's syringe until the water returned perfectly clear, and closed the wound after a manner which has often given good results,—that is to say, I lifted the edges of the wound in the cyst up into the abdominal wound, and passed sutures through the abdominal wound and the cyst-walls, leaving only an opening sufficiently large to admit of the introduction of a double drainage-tube into the cyst-cavity, through which it could be irrigated with an antiseptic solution. Last week I saw a patient whose tumor I treated in this manner a year ago, and who is now in perfectly good condition. She recovered somewhat slowly. In that case the wound was closed in the manner just mentioned, the cyst-walls being included in the abdominal wound by means of sutures passed through both; a Thomas double hard-rubber drainage-tube was introduced, the water passing in by one tube and returning by the other, whereby the sac could be kept constantly clean with carbolized or other disinfectant solution, without any disturbance of the dressings. The cyst-cavity gradually filled up until there remained only a small sinus, into which a probe could be passed, and discharging two or three drops of watery fluid daily. The patient experiences no discomfort, and is now so well that she is about to get married. She also was a girl of 18. I removed but one ovary, with the cyst.

To return to the other case. I treated that patient in the same manner. I put in the drainage-tube, and closed the aperture around it perfectly, but she had lost a great deal of strength during the past two weeks, and before she entered the hospital she had high fever, the pulse was tense and rapid, and, although she rallied well from the ether, she died ten hours after the operation, I suppose from septicæmia. Had the condition been diagnosed with certainty three weeks before, and operated upon, it is possible the patient might have been saved; but under the circumstances it was impossible to make a positive diagnosis early enough. One gentleman, who saw the patient two weeks ago, when she had a high temperature, suggested tapping to see whether or not there was fluid; but had that been done, even with the finest instrument, the contents of the cyst, composed of fetid pus, must have escaped into the peritoneal cavity, for when I put the needle into the cyst, after making the abdominal incision, a stream spurted forth a distance of two or three feet from the patient, so tense was the tumor. Had the patient been let alone, doubtless rupture of the cyst would probably have occurred within four or five days, if death from septicæmia had not occurred in less time.

CELLULITIS.

This patient is 38 years old, has been married sixteen years, and has had four children and one miscarriage. The miscarriage occurred eight years ago, and the last child was born six years ago. She menstruates regularly. She suffers from pain in the back on the slightest exertion, especially after stooping or leaning forward. The pain is a "bearing-down" one, as she calls it.

We have seen this patient before, and made a diagnosis of cellulitis, and determined that it is one of those cases in which not much can be done except to make occasional applications of iodine, and to advise the patient as far as possible to avoid such exercise as causes pain, as stooping or lifting. Under these directions the patient finds herself in a much less sensitive state than when she was here on a previous occasion. If she could take care of herself she could be improved very much under a little careful treatment, and she could be damaged very much with a little careless treatment. There is some falling of the uterus. We will paint the strong tincture of iodine around the cervix, and thus tend to hasten absorption. It is a great point in these cases to know when not to do anything. Such a condition as is present here always contra-indicates an operation for laceration of the cervix, but not necessarily for laceration of the perineum. If this patient could be in a hospital for a few weeks, it would be well to apply iodine to and around the cervix, and then pack the vagina with cotton and glycerin. This would give an elastic support to the uterus, and save her some of the pain which she feels on standing, when there is a tendency for the uterus to prolapse. A little of the iodide of potassium, five grains two or three times a day, is of benefit in some of these cases. Some cases get along very well without any treatment, and others with all the treatment which is proper linger a long time without much improvement. The one thing most needful of all is rest, and for women of this class it is very seldom of any use to order it, as they cannot escape their household work. It is practicable, however, to give some attention to their general health, to regulate the bowels, to advise warm clothing and the protection of the abdominal organs by a flannel bandage constantly worn. The disease is especially prone to recur after any exposure or imprudence.

RETROVERSION WITH CONGESTION.

This woman is unmarried, 21 years old, and for three months past has menstruated every two weeks, the flow continuing four or five days at a time. We have seen this patient before, and found the uterus out of place. She has menorrhagia, consequent upon congestion due to displacement. She had been in perfect health until, during one of her menstrual periods, by some strain or fall, the uterus was thrown backward. Sometimes a fall backward will cause such a displacement of the womb, and the organ, remaining misplaced, will become congested from interference with its normal circulation.

If the uterus has not been retroverted very long, it can be thoroughly replaced, if the patient be otherwise in good health, and will sometimes remain in position. It is better to try a light tampon before resorting to the use of the pessary. Still, unless the case be very recent, it is rather the exception to find the uterus remain in its normal position after being replaced. This patient says that since she was here before, the bearing-down pain from which she had suffered had disappeared, and also the leucorrhœa. She has not yet passed a menstrual period since the displacement was reduced. Should the uterus not fall when it becomes congested at the monthly periods, and when she stands and walks, we may feel confident that it will remain reduced without the introduction of a pessary. It is better, however, that the patient retain the recumbent posture, on the bed or sofa, during the period. She states that she has been relieved of obstinate constipation since she came here for treatment. She had been in the habit of taking cathartics to effect a movement from the bowel. The constipation was due to pressure of the displaced uterus upon the rectum behind, interfering with its normal functions. All this was relieved as soon as the uterus was thrown forward. In this case it was impossible to replace the uterus without the aid of the sound, which I consider justifiable if used very carefully. It is always better to do without it, if possible; but it is useless simply to raise the uterus a little and allow it to drop back when the finger is withdrawn. In some cases the uterus will fall into place

with very slight pressure if the woman is placed on the chest and knees and the vagina dilated with Sims's speculum. Beware of attempting too much at one time, and always insist on rest in the recumbent posture, on the side, for some hours afterwards, as soon as the patient reaches her home.

RETROVERSION WITH PROLAPSUS.

This patient is 35 years old, has been married fourteen years, and has had four children, the last child being seven years old. For thirteen years she has complained of pain in the back and abdomen.

This is a patient whom we have not seen before. You will notice on inspection that there is a slight retrocele and vesicocele. I have here another bivalve speculum with which to make the examination. It differs from others of its kind only in the mechanism for opening and approximating the blades. It is the invention of Dr. Reid, of Edinburgh, and possesses no special advantages over many other similar instruments.

Before passing the sound it is best first to employ a small probe, which will adapt itself easily to the canal of the uterus, and not compel the uterus, as the sound may, to mould itself to the form of the instrument. It would be proper here to attempt reduction of the displacement by introducing the large sound, and using a little force to lift the uterus upward and forward, if the patient did not expect her period in a day or two. The sound should not generally be introduced for the replacement of the organ for two days before or after a period. At present we will only raise the uterus as far as can be conveniently done with the finger while the patient is in Sims's position, and place a ball of cotton behind it. Later we will put the uterus well forward, by means of the sound, if it cannot be done without, and retain it there with a pessary. It is evident that it is easier to keep the wound in position when the displacement is fully reduced by carrying the body beyond the perpendicular, than when it is only reduced sufficiently to just balance itself, when it is liable on the least provocation to fall backward by force of gravity.

In the case of a patient in the hospital a few weeks ago, I threw the uterus well forward, slightly freshened the surfaces on the posterior wall of the cervix and on the vagina, and united the two pared surfaces with silver wire. The band thus formed has been sufficient to hold the uterus forward thus far. The patient is an unmarried woman, the vagina is relaxed, the uterus fell back when reduced, and the patient was one of those sensitive persons who have a particular dislike to pessaries. As the uterus was not flexed, but simply retroverted, I thought that by making a little traction upon the cervix posteriorly while the body was well forward, it would be possible to keep it there.

So far, the band remains firm and the uterus remains forward. It is possible that in this procedure we may have a means of relieving some cases of retroversion which are otherwise very obstinate.

It is true that in this case, and in the one just mentioned, the uterus could be kept in place by means of a pessary; but when this instrument is worn month after month and year after year, it causes some irritation, sometimes leucorrhœa, and necessitates daily injections, and occasional removals.

This patient will return again after her period, and we will then reduce the displacement and introduce a pessary, for with the relaxed condition of the vagina and perineum, and tendency to prolapsus of the uterus, it is not at all likely that it would remain reduced without support. After some months the instrument may be taken out a few days after a period, to ascertain if it is any longer necessary. In all these procedures avoid giving the patient any unnecessary pain. Use as little force as possible. Be content to do a little at a time, and be wise enough to desist and wait if you cannot accomplish your purpose easily, else the last condition of the patient may be worse than the first. Some women tolerate treatment better than others: therefore be very suspicious of new patients. I have known an attack of cellulitis follow the simple passage of the sound to the fundus of the uterus, done with the utmost care. Such an attack prevents all mechanical treatment, it may be for years, it may be forever; for when that form of inflammation has once been established, there is always a greater liability to it than before.

OVARIAN TUMOR.

This woman is 28 years of age, has been married nine years, and has had one

child and three miscarriages, her last pregnancy being six years ago. For seven years she has complained of backache, leucorrhœa, and pain for a few days before menstruation. The pain ceases when the flow becomes established. I shall have more to say about this last fact in another case. She states that she has less pain than when here before, but she has some backache when lying on the back at night. She still has leucorrhœa. She menstruates regularly.

In making the examination,—the patient lying upon the back,—introduce the index finger of the left hand into the vagina, and let the right hand rest upon the abdomen. With a little experience you will find yourselves thus better able to make a thorough exploration of the pelvic contents than if you were to reverse the position of the hands. It is utterly impossible to make a satisfactory examination with the finger in the vagina if the uterus be not steadied by the other hand on the abdomen; for, unless the organ be immovable, it will float away from and evade the finger as soon as pressure is made on the cervix.

Examining the patient in this manner, you will find that the cervix points forward, there being retroversion; that on the right side there is a mass rather indefinite to the feel, but which, probably, is the prolapsed and enlarged ovary. It may be an enlarged Fallopian tube, or a small cyst of the round ligament. The feeling imparted to the finger is that of hardness. The patient complains of pain in the pelvic region and in the breasts before the period. The pelvic pain disappears with the commencement of the flow. Many women have a slight pain in the breast before and during menstruation. Perhaps, as a rule, there is slight enlargement; but a severe pain in the breast I have found common in ovarian disease. She says there is sometimes a greenish discharge. A greenish discharge comes from the cervix or uterus, rarely from the vagina.

The best thing which can be done for the patient would be, if she could afford it, to try treatment by passing the constant current through the ovary, and iodine might also be painted over the region of the tumor. The patient might experience some relief if the uterus were thrown forward and kept there. But I feel sure, from the symptoms and physical signs, that there is a beginning ovarian tumor, about as large as a pigeon's egg, and I think that in two months from now we will find the tumor as large as a hen's egg, or larger. I think it will grow: it is not the nature of such tumors to remain stationary. Yet, as the patient is not now suffering sufficiently to require an anodyne to relieve pain, and her general health is not being affected, I do not think we would be justified at present in submitting her to the risks of an operation. But after the tumor shall have become as large as a goose-egg, and continuing to grow larger, then it would be wiser to operate than to wait until it became of large size, filling up the pelvic and abdominal cavities and destroying the general health. Again, the tumor is at present on one side, and I think that where an ovarian tumor develops on one side, and is allowed to remain six months or a year, the other ovary is more liable to become affected than if the tumor were removed at an earlier period. And I think a mistake is sometimes made in removing the other ovary during ovariotomy when it is not apparently diseased. It should be examined carefully, and if it seem healthy, and the woman be young and otherwise capable of bearing children, it should not be removed. In some instances women having had one ovary removed for disease afterwards bear children, the other healthy ovary being allowed to remain. I recall the case of a strong, healthy woman in other respects who had a large ovarian tumor, and at the operation some of the gentlemen advised me to remove the second ovary, but I allowed it to remain, and since then I receive a letter from her about once in every eighteen months, announcing the birth of a child.

The tendency of late years in these cases is to operate early rather than wait until the tumor shall have become of large size. The late Dr. Peaslee always advised that the operation be postponed until the tumor attained large proportions.

CABLE despatches to the daily papers state that the cholera is slowly spreading through the south of France, and has reached Italy; but it does not appear to exhibit the malignancy in the smaller towns that it did at Toulon and Marseilles.

ORIGINAL COMMUNICATIONS.

NOTES ON THE TREATMENT OF CHOLERA DURING THE EPIDEMIC of 1832.

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TRUE cholera is so like cholera morbus in the exciting causes, the symptoms in the early stages are so similar, while both diseases are so unlike those of affections of all other organs, that we can regard it only as an affection of the mucous membrane of the stomach and intestines; but its course is often so rapid, its mortality so great, its passage from an infected district to other regions, hundreds of miles away, so mysterious and ofttimes so sudden and inexplicable, that the mind is bewildered, making us the more anxious to learn what the peculiar poison is which brings about results so distressing, changes in the system so great, and sweeps away so many lives despite our utmost skill.

The first symptom is nearly always diarrhœa, occurring while apparently in perfect health; then slight pains, followed by vomiting, profuse evacuations, cramps, and collapse. It is, under all its phases, a disease peculiarly of the stomach and bowels. Its varieties, from the first to the last, are only stages of the malady or aggravations of those preceding them.

In the examinations by Drs. Gerhard and Pennock, in the service of MM. Louis and Andral in La Pitié Hospital, the lining membrane of the bowels was always found red in places, and sometimes even, in the lower part of the colon, softened and greatly changed,—the result of congestion and inflammation. I quote from a single autopsy: "The mucous membrane of the large intestine was of a grayish color, at intervals slightly tinged with livid pink in its first third; grayish, livid red, in the eighteen or twenty inches which succeed; then in the last two feet brown, and exhaled a manifestly gangrenous odor." They made many careful examinations, and in all cases the bowels, large and small, gave evidence of changes due to congestion and inflammation. Prof. George B. Wood, a most careful and accurate observer, wrote, "That an irritation in the stomach and bowels exists in cholera can scarcely be doubted; but examinations of those who die in the cold stage reveal no uniform and unequivocal evidences of inflammation; the injection of the mucous membrane is venous. The mucous membrane, throughout nearly its whole extent, is usually more or less reddened, and the parietes of the bowels are sometimes thickened, owing to the *venous injection* of the inner coat."

Prof. Jackson says of the pathology of the first two periods,—the periods preceding collapse,—"In these stages cholera is an irritation developed primarily in the mucous tissue of the alimentary canal." I shall have occasion to quote more at length from this authority when we speak of the collapsed stage.

I have been thus careful to point to the nature of this disease, to show that at first we have congestion and irritation of the gastric and enteric membrane, ofttimes very slight, and, even when severe, quite generally under control by "appropriate remedies," such as were in common use by physicians, in and out of hospitals, during the stay of the epidemic here. Everywhere the first persons attacked had allowed the premonitory symptoms to exist for hours—days, sometimes—before giving any attention to them: so that when brought to the hospital, or to the attention of the physician elsewhere, they had already passed into the stage of collapse. I shall speak now of the treatment which prevailed in city and country in cases still having a pretty fair pulse, though the vomiting and purging, and even cramps, were severe. Regarding it as congestion and irritation, venesection was very frequently used in urgent cases; but prior to a resort to it, the camphor mixture, sometimes called "Cholera Mixture of Dr. Parrish," freely given, would set even very threatening cases at rest. This came into very general use, was a most excellent remedy, and to this day has held the reputation then acquired.

The mixture of Dr. Parrish which attained so great favor and has so long been used is as follows:

℞ Aquæ camphoræ, f℥iij;
Spt. lavandulæ comp., f℥i;
Tinct. opii, f℥i;
Pulv. sacch., ℥ij.—M.

Sig.—Dose, a tablespoonful. (The laudanum may be omitted.)

By some druggists it is thus made:

℞ Aq. camph., ℥iij;
Sp. menthæ piperitæ, f℥j;
Magnesii carb., ℈i.—M.

Dose, one tablespoonful.

In many cases emetics were first given to produce free vomiting. The salt-water emetic was much used. One or two tumblerfuls of warm water with salt would quickly "wash out the stomach," as was said. The propriety of adding, by this nauseating, irritating dose, to the already too great irritation was not plain to me; but there was so much talk about the revulsion it produced, that, without knowing where the revulsion was manifested, I fell into line and tried it in a few cases, then abandoned it and opposed its use on the same principle that almost every practitioner opposed drastic cathartics, which then often developed the disease in healthy persons. Camphor in other forms than Dr. Parrish's was much used, as tincture of camphor with laudanum, or solid camphor with opium. Some physicians used the tincture alone,—one drop every five minutes, or five drops every half-hour or hour,—or in other proportions or combinations. As many patients were so quickly relieved by camphor, some believed it to have a specific effect. A few hours would, in many cases of cholerine (as Dr. Jackson termed the first two stages), suffice to bring relief. When these means failed, and the disease was progressing, bleeding from the arms was generally resorted to, and often with prompt relief. I have often seen the pain subdued, the oppression relieved, and the patient become quiet and lie comfortably, when a few moments before he had been in great suffering and distress.

Drs. Caspar Wister Pennock and W. W. Gerhard wrote of the treatment before collapse as follows: "Febrile excitement should be reduced by bleeding, and, if local pains exist, by leeches; discharges checked by opium. When it has proceeded to cramps and profuse vomiting, blood-letting is advisable if the pulse be not much depressed, and should be carried as far as the strength of the patient will permit. The effect of it in the cases with which we are familiar was very happy."

Dr. Zabriskie, with his five hundred sick paupers, in Bellevue Almshouse, used leeches in his first variety with good results; in the second variety—the "mortal cholera," the same as prevailed in the Paris hospital, where ninety-six out of ninety-seven died—he saved not one out of six cases that he bled, and he did not believe that any treatment would save such cases. I may add here that, when the feebleness of the patient forbade venesection, leeches were used in some cases by Drs. Gerhard and Pennock, because they had observed that "the most severe inflammations very often occur in the intestinal canal."

Dr. H. L. Hodge, late Professor of Midwifery in the University of Pennsylvania, then physician to City Cholera Hospital No. 4, writes, "Should the premonitory symptoms be neglected or injudiciously managed, the *sedation* of the capillaries is more marked, and there is fulness or oppression of the larger vessels, with the severe consequences already detailed." The remedies already recommended should now be actively exhibited, and will sometimes be adequate for the emergency, by recalling the circulation to the extreme vessels and restoring the secretions; but generally direct evacuation must be employed to relieve the congestion, which resists the natural disposition to reaction and the effect of remedial measures.

"Copious bleeding from the large veins had the most beneficial tendency,—not simply by unloading the vessels, but by thus indirectly facilitating reaction,—manifested by more fulness and activity of the pulse and renewed activity of the capillary circulation. The advantages were generally striking and immediate: the feelings of oppression about the head, heart, lungs, and abdomen were at once relieved; the surface would become warmer,—even the livid color would be lessened; the vomiting and purging would diminish or disappear, while a warm perspiration would be diffused over the surface, indicative of a similar return of the internal secretions. . . . It was observed that the blood first drawn was of a very dark color, flowed with difficulty and tardily, even from a large orifice in a large vein, sometimes guttatim, but soon a full stream of almost arterialized blood would sometimes be poured forth with considerable impetus.

"As in these cases the pulse would rise from its depressed condition, becoming full and active as the oppression was ameliorated and as the secretions and heat of the skin returned, large quantities of blood could often be beneficially abstracted: twenty to thirty ounces could frequently be taken from even delicate

persons, while from the strong and plethoric I have taken sixty to seventy ounces with great and immediate advantage, and without any reason subsequently to repent of it. The patient was usually found, at a subsequent visit, with a warmer skin, a fuller pulse, and more natural secretions. In cholera maligna we bleed not to diminish excitement, but to relieve oppression."

Dr. D. Francis Condie, so long the able reviewer of medical papers in Dr. Hays's *Journal*, says, "We have found the lancet, more especially cups to the abdomen, an important remedy."

Dr. Samuel Jackson, after giving his treatment of the two early stages by the ordinary remedies to allay pain, diarrhœa, etc., writes, "Whenever the vomiting and purging continued, accompanied with severe pain in the abdomen, then I had recourse to sanguine depletion, either general or local, or both, according to circumstances. General depletion was used in the limited number of cases in which the pulse was full and excited; but in the others, leeches or cups to the abdomen were found safer and better. It is surprising to witness how prompt often is the alleviation and abatement of the symptoms following the application of from thirty to sixty leeches to the epigastrium and the iliac regions. In no instance did I find it necessary in the patients I treated in the first stages to repeat the local depletion.

"In several instances general depletion made but little impression, while a prompt relief ensued upon local depletion.

"General blood-letting is but partially applicable to the cases of cholera. It should be restricted to those where the constitution is vigorous, and the patient not enfeebled by age, previous disease, or dissipated living."

There is another remedy which at that time was much used in many—I may say in nearly all—diseases, and was exhibited pretty freely in this. Hear what these practitioners say about calomel:

Dr. Jackson gives accurate detailed reports of many cases in all stages, but I cannot find that he used this medicine frequently. When he used it, it was in doses of from only one to four grains, repeated a very few times. He did not speak of it as an essential at all.

Dr. Parrish has left us no account of his opinion in relation to it in any medical essay known to me.

Dr. Zabriskie thought calomel in large doses to purge, and afterwards small ones to salivate, of great value. The drug was used until the stools became green, which occurred in his cases in from four to six hours. His habit was to give ten grains, with half a grain of opium and five grains of kino, every hour. Four doses generally produced the green stools, and then, except in the mortal cholera, the patient convalesced.

Dr. Hodge, after bleeding, treated his patients with mild diaphoretic anodynes, sinapisms, frictions, hot bricks, Cayenne pepper, etc., but he adds, "To fulfil, however, the all-important indication of re-exciting capillary action, no medicine was comparable to calomel. Other remedies were useful in accomplishing this object, but, however rapid in their action, their effects were often trifling and transitory compared to the decided and permanent influence exerted by mercury." He gave calomel in doses of two or three grains, alone or in combination with diaphoretics, every one, two, or three hours, until twenty or thirty grains were given, or the symptoms relieved. "It operates slowly, but very certainly, upon the extreme vessels, augmenting their circulatory and secretory actions, and thus admirably fulfilled the indications in cholera, and was, therefore, the main dependence of the practitioner." It seems, judging from what is said by Drs. Gerhard and Pennock, that mercurials were not used by MM. Andral and Louis at the French hospitals. They say, "Should the discharges be still abundant, they should be checked with opium, and, if the mercurials possess any efficacy in changing the course of cholera, theoretically we should advise their use at this point: practically, we know nothing of their action in this epidemic."

I cannot close this part of the subject without brief notice of the treatment recommended by Dr. Joseph Ayer, member of the Royal College of Physicians of London, a writer well known many years ago. He had in private practice 219 patients, of whom 176 recovered. (In Philadelphia, of 1175 in private practice, 905 recovered; about the same proportion.)

Dr. Ayer, in the premonitory stage, gave one grain of calomel, with two or three drops of laudanum, every half-hour for five, six, or eight times; then every six hours, or twice a day, for a time. In col-

lapse, he gave a grain in pill every five minutes, and with it a single drop of laudanum in a teaspoonful of cold water. In bad cases, he usually gave two grains of calomel every five minutes for an hour or two, and then he fell back to the ordinary dose of one grain. He used no other remedy,—neither bleeding, opium, nor camphor; no leeches, emetics, stimulants, external heat, or ice. He writes, "With the exception of mustard-plasters to the stomach (which I sometimes ordered and perhaps as frequently forgot) and bags of hot sand to the feet, with a regulated allowance of cold water as drink, I resorted to *no other means whatever, not even to a single trial of any other than the calomel and opium.*" He was thus exclusive so as to know that no other agent assisted in the cure. Well, there was sense in this. When I see a man sending in a prescription composed of eight or more medicines, I feel that he is a useless if not a dangerous practitioner.

I come now to the cold water and ice treatment. There was much difference of opinion in relation to the use of these articles. At that time (1832) cold water was not used at all by many physicians in *any disease* as a daily drink. As regards myself, I have never used warm drinks in *any* case, save when cold ones were not desired by the patient, from the first day that I began practice till the present moment. In the cholera time we all in this region used cold drinks. Who could use any other, when all others were disgusting to the poor patient, suffering a horrible thirst and crying for cold water? And yet it sometimes seemed useless, for it was instantly returned, and the cry was for more. We really had occasionally to prescribe the amount and the times when it should be used. Then we had scarcely a single ice-house in the neighborhood; now we have scores of them, and can by substituting ice for the cold water satisfy and relieve the patient.

Dr. Jackson commenced in his first cases to treat his patients with warm stimulating drinks, aided by external heat, such as the warm vapor-bath, then much in vogue. A patient, among the first brought in, was in a collapsed state, cold as death, and no pulse at the wrist, but she resisted the warm treatment,—"had," he said, "an instinctive abhorrence of them: brandy, wine, ammonia, etc., were attempted to be forced on her, but her resistance could not be overcome; her constant exclamation was for cold drinks, and against all warm applications. 'Heat will murder me!' was her constant exclamation: 'give me cold—cold!'

"Nature is an instructor whose lessons are to be preferred to scholastic authorities, and the instinctive sensations of the organs are her language. The effervescing draught, iced, and iced water, took the place of stimulants,—were taken with delight, and largely demanded."

I need only say that the patient recovered.

I cannot, though, refrain from letting Dr. Jackson speak again: "Until this case the patients received into the various hospitals had been treated with steam baths or heated vapor." (He seems to forget Dr. Parrish's trials with cold.) "I had assisted my associates charged with the care of these establishments, and it was the general impression that this means hastened the general collapse by the profuse discharge it caused. None of the patients survived over a few hours. This case made a strong impression on me, and gave a new direction to the treatment I pursued."

It is not out of place here to refer to the use of cold *externally* in reduced conditions of the system. I truly regret that we cannot have the testimony of Dr. Parrish on this subject, for he seems to have tried it somewhat. As there is nothing so impressive as having a case before us, let me speak of one that had received the attention of Drs. Meigs, Beattie, and Jackson on Friday afternoon, and of whom the latter thus writes: "Saturday, August 25, 8 o'clock A.M.: patient alive, though barely animated; no pulse; universally cold; breath cold; voice nearly extinct; labial circulation continues, though very feeble; and the blood pressed from the veins slowly fills them again.

"Reflecting on the condition of this patient,—the vital movements nearly extinct, the circulation almost at a stand, the vital forces reduced to the lowest ebb,—we were struck with its resemblance to that which ensues from exposure to a low temperature. Though the causes are different, yet the condition is analogous in the two cases. In this state heat and powerful stimulants extinguish and do not reanimate the vital movements, or, if they be roused, it is only a momentary effort,

terminating speedily in irremediable exhaustion.

"We were struck with another analogy. The choleraic patient advanced to the condition of the case before us, with his blood but partially oxygenated, is reduced in the scale of vitality, and approaches, in the state and nature of his vital forces, to the animals of cold blood, or having a single ventricle. In all such animals a degree of heat equal to that of the human body is oppressive, benumbing, gives a strong tendency to asphyxia, while a degree of temperature which is often that developed by fever in the human organism is productive of fatal asphyxia in a few moments. In those animals also, when placed in mediums destitute of oxygen, if the temperature be elevated asphyxia is rapidly induced. The same animals in a low temperature approaching the freezing-point will survive a considerable period, and may be reanimated after a much longer suspension of their vital functions.

"Acting on these suggestions, I took a piece of ice and rubbed with it a hand and arm for a minute or two, following it up with dry frictions, first with my hand and then with a dry cloth. An instant change took place in the color of the skin. From a cerulean hue it became pink, and the sensation of cold was most agreeable to the patient. Encouraged by this experiment, the same process was extended to the whole body and repeated every half-hour. The temperature of the whole body soon improved, it acquired an agreeable warmth, and the skin felt dry and more natural. The treatment, with ice internally administered and the iced saline solution given in small quantities every few minutes, was persisted in during the day." The patient recovered, the convalescence beginning on the 27th. In his "Observations," he adds, "I have seen no other patients recover from so prostrate and apparently hopeless a condition as the subject of this case." We should not forget this case. A man in the very arms of death. Patient alive, though barely animated, says Dr. Jackson. Did he resort to the fashionable life-giving (!) whiskey? No! No!

Dr. Hodge says, "The free indulgence in cold drinks is productive of much mischief, by increasing the load and oppression at the præcordia and aggravating the vomiting; and thus the exhaustion of the patient is increased by the quantity of fluid and by the sedative influence of cold on the gastric mucous surface. But in *ice* we have a most excellent substitute. Ice, in small quantities, allowed to dissolve in the mouth, is exceedingly grateful. It quiets the morbid sensation, and moderates the restlessness, jactitation, and anxiety which do so much mischief."

I cannot leave this part of the subject without a word upon opium. Of this most valuable drug I need not say much more than that all relied on it as the one indispensable medicine. In the stages preceding collapse it often by itself, or with camphor, effected cures in very severe cases. As the value of this agent is fully appreciated at the present day, I need not discuss it further.

Before taking up the consideration of the treatment by other means than those mentioned, I may here speak of some peculiar pathological views upon which they were based. And first let me state Dr. Hodge's views of the nature of cholera. The opinions of the other physicians named in this paper have already been presented. They regarded irritation and inflammation of the mucous membrane of the alimentary canal as the cause of all the symptoms. Dr. Hodge regarded the condition there as one of *sedation*, not irritation. He says, "If the collapsed stage be regarded as the true type of the complaint, the evidence of sedation or diminution of action in the general system is undeniable. The cold and livid surface, the tearless eye, the pallid and cold tongue, the coldness of the breath, the weak, fluttering, almost imperceptible pulse, leave no mind in doubt respecting the prostration of vital excitement in all, or nearly all, the organic tissues.

"It is, however, contended that this sedation of that stage is a secondary condition, resulting not directly from the original epidemic cause, but indirectly from the occurrence of severe local irritation or inflammation; that vital excitement is so concentrated in a particular tissue, the gastro-intestinal mucous membrane, that torpor or prostration of the other tissues ensues. That this sedation is the direct and immediate consequence of the epidemic influence is, I think, fully proved by an examination of the symptoms preceding and accompanying the primary stage.

"There is no evidence at any time of vascular excitement, no frequency or irritation of the pulse, no dryness or heat of the skin, tongue, or any other accessible tissue. On the contrary, in many instances, long before there is any decided manifestation of the disease to the unobserving, and of course prior to any evacuations, the skin will be found pallid, and of a darker tinge than natural, the features contracted, the tongue pallid, the appetite impaired, the urine diminished in quantity, the stools of a light color. There is no evidence whatever of general excitation of the circulation at any period of the disease, whether of a mild or severe type." Dr. Hodge has much more on the subject; but this must suffice for the present.

Dr. Jackson, in opposition to these views, wrote, "In the first periods there are no evidences of enfeeblement of nervous power; on the contrary, the cramps of the voluntary muscles and the spasms of the muscular tissue of the alimentary canal are direct indications of an opposite condition. They indicate excitement and augmented energy of the nervous stimulations exciting the muscular power. The muscular power of patients is remarkable, considering the great intensity of the disease."

While these two eminent physicians, and others, who agreed with the one or the other, differed in their views of the affection, their treatment was nearly the same. I deeply regret that Dr. Parrish, whose counsel we so eagerly sought and whose teachings we so implicitly followed, has left us no testimony in relation to his pathological views and to the value of blood-letting. It is, however, well known that he used the lancet freely in cases where the pulse was readily felt at the wrist.

The eloquent and enthusiastic Dr. C. D. Meigs, then physician to Cholera Hospital No. 10, the teacher to whom thousands have since listened with delight, whose style was peculiarly his own, and whose courage dared give expression to his thoughts, has left us a record of his views. He did not believe in the inflammatory nature of cholera,—did not even believe that it was an affection of the bowels. I have not space here to do him full justice, to give proofs and illustrations of his interesting theory. I will essay to do it briefly. He regarded the brain as the *Being*,—the *Man*. All else—limbs and organs—were servants, moved and compelled to do duty by that nervous mass. In its integrity all moved, all worked in harmony; but when it was touched by the cholera-poison its motor force was increased, and then came disorder everywhere; all the diseased phenomena witnessed in cholera resulted from the poison acting on the brain. The rice-water discharges which issued in full streams from stomach and bowels, and the sweat which came like rain from the skin, leaving but strings of clotted residue in the narrowed blood-vessels, made so by the condensing motor force, were forced through the parietes of every blood-vessel, from the mighty aorta to the finest venule of the body, just as the milk-maid presses the whey from the curd through the meshes of a linen cloth, leaving only a dry mass. I fear this may misrepresent him. Space or no space, he shall have fair play; he shall be heard. He writes, "Oken asserts that the *animal* is naught but nerve. Can you gainsay him? From the nervous mass, called brain, issue two, and only two, forces, one sensor, the other motor. Cholera is an exaggerated intensity of the motor force. Conceive, if you can, this exaggeration, then you will perceive in the malady a state of the nervous mass, which has resulted in the gradual or the sudden condensation of all the living solids,—not the muscles alone, which are racked with cramps or spasms, whether those of the trunk or limbs, or those of the alimentary canal, the bladder, uterus, etc., but condensation of every artery, arteriole, capillary, and venule, of the cellular tela, of the skin, the parenchyma of the lungs, the acini of the liver, and all other textures. Every organ, every granule, every tissue in a general anatomy, and every molecule, tends toward condensation under the stimulation of cholera-poison. So that the whole living mass is, as it were, under a squeeze,—the cholera-squeeze."

"It is a state of [hyper]æsthesia, and can be relieved only by anæsthetics. Of *anæsthetics* there are but two dependable ones in the world,—opium and the lancet."

Such were his views: what was his practice? By quoting a single case I shall make it plain:

"Salvador, an athletic Sardinian, was pulseless, algid, blue, voiceless; skin puckered and adherent to the periosteum of the phalanges; the tongue cold, and mu-

cous membrane of everted lips cholera-blue. He had been under the cholera-squeeze. There was no time for opium. I tied up his cold arm, and opened the median vein. It would not bleed. I drew out a long veno-morphous clot, and the blood trickled down into the bowl. I rubbed his arm and hand, and it began to flow, the perishing man being all the while as composed and sensible as if in perfect health." The rest I sum up. He fainted; was revived; the anæsthesia was perfect, and from that moment he convalesced.

Here we again see that a dissent from the inflammation theory did not lead to a different practice, though it is proper to say that Dr. Meigs opposed all emetics and cathartics. The condition of the blood deprived of its water led to the idea that if a solution of the saline ingredients in warm water, in the proportion which they hold to the serum in normal blood, could be thrown into the veins, the clotted blood might be made fluid, the fulness of the vessels be restored, and the circulation be established even in the extremities, and the heart be stimulated to increased action. When this idea was acted on, how wonderful the results!—the unconscious and dying man restored, as if by magic, to life and comfort. Dr. Thomas Latta, of Leith, Scotland, in 1832, before it reached us, by resorting to this expedient saved some cases from impending death. I will give one case. (Before doing so, let me say that Dr. Jackson reports the temperature of the body in cases of extreme collapse as 90°, 91°, 92°, and even in some as low as 84° in the mouth.)

Dr. Latta says, "If the temperature of the water injected be so low as 100°, it produces an extreme sense of cold, with rigors; and if it reach 115°, it suddenly excites the heart, the countenance becomes flushed, and the patient complains of great weakness."

Numerous trials were made before the amount to be injected and the proper temperature of it were ascertained. Of his first case he thus speaks: "An aged woman had apparently reached the last moments of her earthly existence. I feared I should be unable to get my apparatus ready ere she expired. Having inserted a tube into the basilic vein cautiously, anxiously I watched the effects. Ounce after ounce was injected, but no visible change was produced. Still persevering, I thought she began to breathe less laboriously; soon the sharpened features and sunken eye and fallen jaw, pale and cold, bearing the manifest impress of death's signet, began to glow with returning animation; the pulse, which had long ceased, returned to the wrist; at first small and quick, by degrees it became more and more distinct, fuller, slower, and firmer, and in the short space of half an hour, when six pints had been injected, she expressed in a firm voice that she was free from all uneasiness, actually became jocular, and fancied all she needed was a little sleep; her extremities were warm, and every feature bore the aspect of comfort and health." As he was weary, he left her in charge of another, who failed to watch her closely, and she again fell into collapse, and died. It should have been repeated, as the following case will show:

"A woman, aged 50, on the 13th instant, at 4 A.M., was seized in the most violent form, and by half-past nine reduced to a most hopeless state: pulse gone at the axilla. I injected one hundred and twenty ounces, when, like the effects of magic, instead of the pallid aspect of one whom death had sealed as his own, the vital tide was restored, and life and vivacity returned; but diarrhœa recurred, and in three hours she again sunk. One hundred and twenty ounces more were injected, with the same good effect.

"In this case three hundred and thirty ounces were so used in twelve hours, when reaction was completely re-established, and in forty-eight hours she smoked her pipe, free from distemper. She recovered."

What success our Philadelphia physicians had with intra-venous injections is not known to me. In reading these cases I was amazed that so much fluid could be thrown into the veins and yet not distend them. It shows what a large amount of blood circulates in the body when in health. Dr. Jackson says we have five hundred ounces. I must not neglect to say that the solution used by Dr. Latta was composed of from two to three drachms of muriate of soda and two scruples of the subcarbonate of soda, with six pints of water. Our timid friends who think "no one has a drop of blood to spare," and who stand by the suffering patient and see him die rather than relieve him by bleeding him to unload the vital organs,

oppressed by congestion or their functions destroyed by inflammation in acute diseases, should from these cases be encouraged to believe that they might, in inflammatory diseases, draw even large quantities of blood at times without endangering the life.

Of the physicians spoken of in this paper not one believed in its contagious character. Nor did they regard quarantine as being of any value. But, though holding these opinions, I am not aware that they favored the doctrine of Mojon, a professor in the medical department of the University of Genoa. In 1832, when Dr. Mojon learned that the cholera prevailed in Paris, he hastened to that city to investigate the cause and nature of the disease. He afterwards published an essay in which he advocated the doctrine (recently revived by Koch in more precise terms) that "the efficient cause of cholera consists in animalcula floating in the atmosphere, and which, penetrating into the system through all the pores" [how like the report of Prof. H. C. Wood about the Wisconsin diphtheria!] "situated on the internal and external surfaces, give rise to the symptoms." His essay is an exceedingly interesting one, and his doctrine will, no doubt, be now regarded with favor; and should it be found to be true (by discovery with our improved means of observing minute germs), let us not forget to give due credit to Dr. Mojon, who, though not the originator of the idea, more than any other man clearly presented it to the people.

While the cholera was sweeping off hosts of victims in Montreal, there one day appeared in that city a man strangely attired, and with a full beard,—then a most unusual thing,—mounted on a Texas pony (or, as they are called, mustang), leading some others, and followed by several dogs. It was a novel sight in the city, and as he passed from street to street the "wonder grew," and the questions were, "Who is he? Whence came he?" It was soon known that he claimed to be able to cure the cholera. The city was filled with mourning and terror; people were anxious to receive aid from whatever source it might come. Some went to his quarters for the cure; others he visited at their homes; some cures were effected; the excitement became intense; crowds flocked to him; his exploits were heralded all over the country, and the efforts of physicians paled before his reputed successes. The disease soon ran its course in Montreal, and the people were ready to believe that the mysterious doctor had caused its decline. There was a public meeting to express the grateful feeling of the citizens for the timely arrival and eminent services of the cholera doctor, and he was voted the freedom of the city. Other places applied for his services, and he was conveyed from the city to give his remedy and life-giving services to bands of Indians whom the disease had reached. The cholera passed away, the cholera-doctor's services were no longer needed, winter and spring had come and gone, and I had forgotten the mysterious stranger, his dogs and horses, when by chance I was brought face to face with them. He had come to Spring Mill to see his friend Peter Légaux, a French surgeon, who had managed the property of the luckless "Philadelphia Vineyard Company." Though Mr. Légaux was deceased, the stranger was, as in former times, a welcome guest in the home of the daughter. On meeting him, I found a man of middle age, tall, thin, calm and dignified in bearing, dressed in light linen clothes. At night he slept on the floor without a bed. Whatever cover was over him was of linen, so that the "electricity could have a fair chance to circulate around him." There were many peculiarities about him, but he was not an uninteresting man. When I told him that we had heard, even at this great distance, of the success of his labors in Canada, he appeared to be gratified, and told me much of his doings there. He said that his name was Stephen Ayres, that he was a graduate of Princeton College, a licensed physician of the State of New Jersey, and for the past few years a resident of Texas, then to us almost an unknown region. The remedy used by him was simply pulverized charcoal mixed with lard. It was prepared by himself, and given to all with special directions to be followed to the very letter. He was a shrewd man, and, while he affected to have unbounded confidence in the value of his remedy, he was not blind to the effect which his mysterious manners and movements had on the minds of the people. Charcoal, however, was not then a new remedy, as many used it in bowel affections and gastric disorders.

In this long and, to some, I fear, weari-

some paper I have desired to present to the profession of to-day the views and practice of some of the eminent men—now no longer with us—who, fifty-two years ago, met a disease new to them and fought it with the weapons at their command. It is pleasant to record the testimony of men so justly eminent. It is instructive to ponder the results they have recorded,—patients in the embrace of death brought back to life, sometimes by venesection, sometimes by being rubbed all over with ice, sometimes by quarts of warm water being forced into their veins. Though I have made long extracts, my regret is that I could not present all they have written.

HOW TO PREPARE ANTISEPTIC DRESSINGS OF MERCURIC BICHLORIDE.

BY CHARLES MEIGS WILSON, M.D.

NOW that the advantages of the mercuric bichloride as an antiseptic dressing have been clearly established, receiving as it does the sanction of so many eminent surgical authorities, and becoming extensively employed in hospital and private practice, a few words as to its proper preparation for such purposes may be of interest. Corrosive sublimate is soluble in water in the proportion of thirty grains to the ounce. Various vehicles have been employed, as glycerin, ether, alcohol, or the latter in equal parts and water. Of all these the preference should be given to water as a medium, because of its capability of imbibition and solution, and the readiness with which it may be obtained. Sufficient sodium chloride should be added to solutions of the sublimate (an equal part) to prevent the latter's decomposition and the formation of calomel. In hospitals it is possible to have the solutions freshly prepared and frequently renewed, but in private practice this is not always feasible, especially if the case be of long duration and at a distance from a drug-shop. A convenient solution for private use, and one which will keep indefinitely, is the following:

Hydrarg. bichlor., ʒii;
Sodii chlorid., ʒi;
Aquæ destillat., fʒiv.—M.

One fluidrachm of this, added to a pint of water, makes a solution of about one to a thousand. Sir Joseph Lister* makes use of the following formula in preparing solutions of corrosive sublimate: One drachm by weight of a solution, one part of corrosive sublimate in one and one-half parts of glycerin, contains two-fifths its weight, or twenty-four grains, of the sublimate. This multiplied by one thousand (the proportion of water required) gives twenty-four thousand grains, or nearly three pints. It is, however, much more convenient to use fluid measure than weight, and one fluidrachm of the glycerin solution referred to requires four pints of water to produce the one to one thousand solution. Surgical authorities are pretty well agreed that one to one thousand is the proper solution to use for douching, washing, and dressing wounds. For vaginal or uterine irrigation, one to two thousand is the proper strength, and no stronger solution should be used in abdominal surgery. The best medium in which to use the corrosive sublimate for surgical dressings is finely-pulverized wood.† This may be obtained at a number of the instrument-makers' and drug-shops. The wood-wool is sterilized by being subjected to a dry heat (above 220° F.). It is then soaked for twelve hours in a one-half per cent. solution of corrosive sublimate; afterwards it is spread out and dried. It is then placed in a bag of gauze (such as is used for the Lister dressing) or mosquito-bar netting, prepared by being saturated with the following solution:

Corrosive sublimate, gr. x;
Alcohol, fʒix et fʒii;
Glycerin, fʒi et ♏xx.

This dressing is applied dry. Care should be taken to apply the dressing so that the margins of the bag extend an inch or so beyond the margins of the wound. This dressing is capable of absorbing twelve times its weight of water. It is applied with the ordinary roller, and requires no mackintosh or covering.

In cases in which there is a moderate amount of suppuration this dressing may be left until the external dressing becomes soiled. The wood-wool prepared according to the above formula is the dressing which is almost exclusively used at St.

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* Brit. Med. Journal, May 24, 1884.

† This wood-wool may be obtained from M. R. Hopkins, 72 Duane Street, New York.

Thomas's Hospital and many of the other London hospitals. The following formula I take from the report of St. Mary's General Hospital, Brooklyn, N.Y. Dissolve six grains of the corrosive sublimate in a half-ounce each of ether and alcohol. Dissolve twenty-four grains of the chloride of sodium (added to prevent the decomposition of the sublimate and formation of calomel) in an ounce of glycerin. Mix the two solutions, and triturate well with one pound of wood wool; spread out to dry, and, after the ether and alcohol have evaporated, mix well with one part to ten by weight of powdered naphthaline. Thus prepared, we have a dressing that can be applied in a dry state, will absorb twelve times its own weight of water, is easily prepared, is simple, readily applied, and, above all, fulfils all the requirements of a true antiseptic dressing. The combination of these two agents gives us the most powerful germicide we know of,—viz., corrosive sublimate,—thus insuring a perfectly aseptic dressing, which, while it prevents any decomposition of the secretions of the wound, offers but a slight obstacle to germ-laden air, and the naphthaline constantly given off in a gaseous state by the heat of the body maintains a true antiseptic atmosphere around the wound. Naphthaline is non-poisonous, has established antiseptic properties, and appears to exert a specific influence over the contagion of erysipelas. The wood wool prepared in this way is used as a dressing in precisely the same way as that prepared by the first formula. The indications for renewal are the same as those in any other form of antiseptic dressing. The simplicity of these dressings is their great charm, and renders them especially applicable for primary dressings. Equipped with a few bags of this dressing and a few roller bandages, the ambulance surgeon would be ready to place a wound almost immediately after its occurrence under antiseptic conditions. This is important in all cases, but especially so in cases of penetrating wounds, compound fractures, and other severe injuries.

The following precautions should be used in operations. Before the operation, the parts should be freely douched with the 1-1000 solution. An asepticized ligature (pure silk is preferable) should be used. All hemorrhage should be checked temporarily with the Billroth artery-forceps, until a ligature, if one is needed, can be applied. Before the wound is closed it should show no evidences of hemorrhage; and before the final stitches are placed *in situ*, the innermost recesses of the wound should be well *flooded* with the 1-1000 solution. The same solution should be used to asepticize the sponges, and in the interim between operations they should be left to soak in a one-per-cent. solution. When it is desired to wash out the uterus, as in cases of puerperal septicæmia, 1-2000 is the proper strength to employ. In uterine irrigation the method by simple hydrostatic pressure should always be used, as otherwise there is danger of introducing air with the syringe.

As a disinfectant, corrosive sublimate is the best agent we have, because of its germicidic properties (which are unrivalled), because of its cheapness and the simplicity of its preparation, and, what is very important, it has no odor. A solution of bichloride of mercury for disinfecting purposes is readily made by mixing it with an equal part of common salt, and dissolving in water in the proportion of one gramme to one thousand cubic centimetres, or one ounce to eight gallons of water.* As far as the danger of mercurialism goes, in my own experience, embracing over four hundred cases, most of them severe cases, in hospitals in which no walking cases were admitted, I have seen only two cases of ptyalism, one in a negro woman aged 50, in whom the "dinner-plate" amputation of the right mamma had been performed. Her condition was miserable from the outset; and, after three weeks' continuous dressing with the 1-1000 solution, pyæmia developed, attended with uncontrollable diarrhœa; at the same time there was marked increase of the salivary secretion, but no mercurial fetor, and no blueness of the gums. The other case was that of a hospital-nurse, who, in order to get a holiday, simulated mercurialism; but careful investigation showed that he was feigning. These two cases I mention because some of the house-staff at the Pennsylvania Hospital, where they occurred, considered them as genuine cases of poisoning by the solution, though I believe that in reality they were not. At present the mercurial bichloride in the proportion of 1-1000 is extensively

* Med. News, August 2.

used as an antiseptic in the Jefferson, Pennsylvania, and Blockley Hospitals in Philadelphia. Personally, I have used it in a large number of cases with the best results,—among others, several cases of compound fractures, which did exceedingly well. In a recent number of the *Medical Record* I reported several cases of penetrating wounds of the abdomen, in which, though brought into direct contact with the perineum, no effects of mercurialism were observed, and the wounds healed promptly. It is to be hoped that some day it may be tried in a case of laparotomy. As a dressing, the sublimate has received the sanction of nearly all the Continental and English surgeons, among them that of the great apostle of asepsis, Sir Jos. Lister. In America it is even more extensively used.

SOME NOTES ON MEDICAL JURISPRUDENCE.

BY JAMES A. RILEY, ESQ.,

New York.

THE question of expert evidence is a vexed one, and much has been and much can be said both in favor of and against the methods now in use in the courts for securing testimony of this character. A good many of the thinkers on this subject are of the opinion that the experts should be called by the court for its own information and that of the jury, instead of by one side to bolster up its own case, in which event bias is always possible and generally probable. A curious instance of the extent to which the testimony of physicians is sought in some cases comes to us from a Michigan court, and the great interest of the matter consists in the attempt to get medical evidence, not as to the effects of wounds or disease, but as to the results upon the health of words spoken. The case was that of a person threatened with expulsion from a railroad-train for using part of an excursion-ticket, the other part being detached. The passenger claimed that the words and threats of the conductor affected his health, and called a physician on the trial who testified to that effect. This was regarded as an error when the case came up on appeal, and the court commented as follows on the proposition to allow medical testimony as to the effect of mere words upon the health: "The medical evidence which was given in the case respecting the effect of the alleged assault upon the plaintiff's health seems to call for some comment. As the assault was a battery only in a technical sense, and there was no pretence of injury except such as might come from mere words,—from the mere expression on the part of the conductor of a determination to put the plaintiff off the car unless he paid his fare,—the proposition that it was proper to call expert witnesses to show the possibility of injurious consequences from such words to the plaintiff's health is suggestive of possibilities in the trial of cases which the trial judge may well contemplate with some solicitude. If expert evidence of the sort were admissible in this case, it is difficult to conceive of a case of assault and battery or of any other case in which vexing or provoking words are made use of where the expert witness may not become an important factor in determining the result." The decision of the court did not hold directly that the testimony as to the effect of words spoken upon the health was improper, though this was the inference; but it was decided that if such testimony were to be admitted, other testimony, showing the passenger's weak condition of body, should be taken as proof that the words of the conductor were not entirely the cause of his sickness.

A recent case in New Hampshire brought up the question of the power of a health board to employ nurses for the proper care of persons afflicted with contagious diseases who were committed by the authorities to a pest-house, and to charge the town for such services. The court held that they had the authority to bind the town, and gave an interesting opinion, as follows:

"Having power to compel the confinement of infective persons and prevent their communication with others, and having exercised that power, it became their duty to provide for the wants of those confined there. They could not shut them out from communication with their friends and with the world and deprive them of any means of obtaining assistance, and at the same time lawfully withhold necessary support and care. They could not establish a hospital without ordinary hospital accommodations, and they

could not make the hospital a place of involuntary confinement and escape the duty of supplying the reasonable wants of those who, by confinement and seclusion, were prevented from applying to any one else for relief. They could not furnish relief against the will of those confined, and afterwards recover the expense of them or of those liable in law to support them. Farmington *v.* Jones, 36 N. H., 271. If the health officers were obliged by law to confine persons infected with dangerous diseases, and it was their duty to nurse and support them, and they could not recover the reasonable expense from them or from their guardians, they would be remediless unless they could charge the expense upon the city. The law does not require the performance of a duty and at the same time withhold the means reasonably necessary for its performance."

The power to abate nuisances is frequently exercised by courts at the instance of health boards, and the latter are particularly active now in these times, when there is danger of cholera in every sea-board city and town. A recent instance of such activity was shown in the application made in an English case to oblige a railroad company to remove its cattle-yards from a place where they were alleged to be injurious to health, and this the court directed to be done.

In a case not long since before one of the English courts, a person sued a surgeon for negligence in allowing him to suck a tube used in the operation of tracheotomy on his child for diphtheria, without warning him of the danger, with the result that the father contracted diphtheria. The result of the suit was, however, in favor of the surgeon.

A curious problem is now before an English court,—viz., to decide whether a man can give away his head after it has become what one of the papers styles a dead-head. It seems that a person who had no sentimental notions about the disposal of his body after death sold his head to the village physician, who was to defray the expenses of the funeral of the rest of his body. The owner of the head is now dead, and the physician claims that the contract shall be carried out by the relatives of the deceased. As there is a large estate, the family are desirous of avoiding the contract, and the court has to decide which has the better claim.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF THE COLLEGE OF MEDICINE, LOUISVILLE.

CLINIC OF PROF. DUDLEY S. REYNOLDS, M.D., PROFESSOR OF GENERAL PATHOLOGY AND DISEASES OF THE EYE, EAR, AND THROAT, HOSPITAL COLLEGE OF MEDICINE, MEDICAL DEPARTMENT OF CENTRAL UNIVERSITY OF KENTUCKY, LOUISVILLE.

Reported by ALLEN KELCH, M.D.

NOVEL TREATMENT OF PTERYGIUM.

GENTLEMEN,—This is Jacob B., æt. 46, a teamster. He received a lick in the left eye with the knot on the end of a whip-cracker about a year ago. The eye became intensely red, and his sight disappeared at once from the moment of the receipt of the injury. Two hours later the anterior chamber was full of blood, the tension of the eye was greatly reduced, and I expressed it as my opinion, after examining him, that the eye had been fatally injured and should be at once removed. To this Jacob demurred. During the night, as I had predicted, pain of a very severe character came on, and the next day he wisely concluded to comply with my suggestion. Accordingly, the eye was enucleated. A section showed detachment of the retina, rupture of the capsular ligament of the lens, and extensive hemorrhage into both the vitreous and aqueous chambers.

This eye had been his main reliance for many years, in consequence of a large pterygium which you now see occupying the nasal side of the right eye. It was my design to remove this growth long ago, but, as he feared the results of the operation, it was deferred, until, as you now see, the apex of the pterygium has advanced beyond the vertex of the cornea. To-day he is in a pitiable condition, having been out of work for many months, with a gradual advance of this growth upon the surface of his only remaining eye; his vision has been gradually obscured until he is barely able to find his way about.

A pterygium is a singular kind of growth: it is a sort of hypertrophy of the connective tissue surrounding certain blood-vessels. It is triangular in form, though more distinctly so in many cases than it is in this. This pterygium, whilst it has a moderately broad base at the inner canthus of the eye, is a full quarter of an inch wide at the apex upon the corneal surface. It is desirable to remove this growth in such a

manner as to restore as much as possible the transparency of the cornea. If I cut it out, dissect it off, remove it entirely, a wide breach of continuity in the tissue must result, and, if this is permitted to remain open, cicatricial contraction will go on to limit the motion of the eyeball and thus interfere greatly with the man's vision. If I attempt its removal by strangulation, as suggested by Stellwag, I shall have much the same difficulty to encounter. If I attempt the practice of transplanting it, as has been recommended and practised by many, I shall have the difficulty to encounter which follows the organization and contraction of plastic tissue covering the surface of the ball from the inner canthus to the junction of the sclera and cornea.

The object of an operation is here, manifestly, to get rid of as much of this tissue as possible in contact with the ball: hence we shall seize it with Graefe's fixation forceps at the point of union between the cornea and sclera, and by closing the forceps and making forcible and continued traction the apex begins to tear loose from its attachment with the cornea, and by a little coaxing with the back of a Graefe's cataract-knife a pretty clean dissection is made, so as to leave none of the morbid growth upon the cornea. Then by carrying the line of division along down the side of the growth to its base it may be turned back, and by making curvilinear section of the conjunctiva in the limbus to the extent of a quarter of an inch from the opening, then dividing with scissors the conjunctiva towards the equator of the globe in a radiary line from the centre of the cornea, a flap is formed, which, by clipping a few fibres of loose connective tissue, may be turned so as to meet a corresponding flap from the opposite side, and by stitching these together cover the exposed surface behind the pterygium, thus closing up the opening made by its removal. The sutures will come out in two or three days, and, healthy conjunctiva being thus united at the point where the pterygium was attached, the exposed surface of the globe from whence the flap was taken readily heals over by the extension of newly-formed connective tissue, which is soon covered by epithelium, and no mark remains upon the surface of the ball to indicate where the pterygium grew, except the slight gray opacity of the cornea where the apex was attached; meantime, the pterygium proper shrinks and disappears. This is the most successful method of operating for the complete and radical cure of pterygium with which I am acquainted. I believe it has never been published except in some of my clinical lectures.

IMPAIRED NUTRITION, GLANDULAR ENGORGEMENT, AND ENLARGED TONSILS DUE TO DEFECTIVE DIET.

Carrie H., æt. 13, has enlarged tonsils, obstructed breathing through the nose, is emaciated, and has enlarged lymphatic glands in the neck; is the subject of fissures about the meatus of the nose and at the corners of the mouth; has an aversion to animal food; eats nothing, her mother says, but molasses and stewed apples. She has lost flesh rapidly within the last month, and, although her mother says she is not sick, she is constantly clearing the throat and picking the nose, is restless, and does not look as though she were more than eight years of age. The mother is a pale, emaciated subject, with lymphatic engorgements likewise. None of the family are in good health, though none are positively sick. There are no evidences of syphilis in any of the family, and I know them all well, having attended them occasionally for years: in fact, I delivered this child about thirteen years ago. The family are in reduced circumstances; Mr. H., being a cooper, does not work all the year; his wages are not large, and his family expenses exhaust every cent of his income.

It is common to say that such a case as this is a typical representation of scrofulosis, whatever that may mean; and the theory is greatly strengthened by the fact that all the family suffer from glandular enlargements. They are all pale and debilitated; none of them are fond of animal food, and their diet consists chiefly of dried meats, bread, fried bacon, salt fish, eggs, potatoes, and cooked fruits, with an abundant supply of that most abominable of all substances, common molasses.

These people none of them take a sufficient amount of the force-producing agents which add real strength to the body. The only animal foods they take are a little butter, which is generally somewhat rancid, because they cannot buy the best, and the fat obtained from frying bacon or the bacon itself. When we consider, then, that the larger portion of the diet of these people is made up of worse than inert substances,

it is no wonder they have glandular enlargements, constitutional debility, that they are pale, feeble, and waxy.

No local treatment can do this girl any good, except it be in the nature of removing accumulated lymph from the nasal passages. It would be positive malpractice to cut these tonsils, although they are almost in contact, so large have they become. The tonsils are lymphatic glands, and depend as much for their size in this case upon the engorgement of the lymph-channels generally, as do those other glands which you see here in the submaxillary region and along the line of the sterno-cleido-mastoideus muscle throughout its whole length. I have no hope of curing this child, but I believe she may be materially benefited by such palliative treatment as will tend to keep the tenacious lymph in the nares in a liquid state to facilitate its expulsion. To do this we must have something constantly present upon the surface of the membrane which has the power to dissolve the fibrinous properties of the lymph, and which shall not at the same time irritate the membrane. This may be had in the judicious administration of a powder made after the following formula:

℞ Pulveris sodii boratis, ℥ss;
Pulveris sodii chloridi, ʒss;
Pulveris cubebæ, gr. v.—M.

Sig.—Use as a snuff.

By using two ordinary conical ear-specula, turning the bases together and putting the nozzle of the Politzer air-bag over the tip of one of them, the other may be made to contain the powder, and by returning them base to base, inserting the tip of the distal speculum into the meatus of the nose, compression of the air-bag forces a sufficiently powerful insufflation of the powder to drive it into all the crypts and sinuosities of the naso-pharynx. This powder will remain there until enough of the accumulated secretions or exudations are poured out for it to act upon in the production of a liquid which by nature will flow into the pharynx and suggest the propriety of the patient's snuffing and hawking to expel it.

She may have the syrup of the iodide of iron, combined with glycerin and simple syrup in equal proportions, of which she can take a teaspoonful at a dose after each meal. She is to be encouraged to eat fresh meats and common vegetables, well cooked; to eat the ripe fruits and melons of the season; to eat no more cooked fruits, no more pie, no more molasses, the object being to avoid the introduction of glucose, which is an already digested form of food and which has therefore no power as a force-producing agent. The act of transforming the food in the process of digestion gives to the animal economy its force, its power, and whatever of the protoplasmic material may be developed as the result of this action will go to supply the wasting tissues. Thus the purposes of nutrition are fulfilled.

J. W., æt. 9, came here a month ago, in a much worse condition than the patient who has just left. His tonsils were actually in contact; his submaxillary glands were nearly as large as hen's eggs; he had an eczematous eruption upon the chin and lower lip; his eyelids were thickened and the lashes matted together with encrusted matter. You see to-day he is a handsome, bright, clear-complexioned, vivacious chap, full of animal spirits. His tonsils are now no larger than butter-beans; they do not approach sufficiently into the throat to offer any material obstruction to either swallowing or breathing. He no longer suffers from the accumulating lymph in the nasal passages, and, although he has lost the inferior turbinated bone upon the right side, the nares are now free from accumulations of any foreign matter. His breathing is normal; his complexion is bright, as you see; his submaxillary glands are no longer visible, though they may be felt by close search. You ask what has brought about this change. I tell you, total abstinence from glucose in all forms, and the constant cultivation of the habit of eating fresh animal food with plain common vegetables and ripe uncooked fruits, with the seasonable melons, etc. I have not even permitted him to eat cakes or candy, and he often begs me for permission to eat ice-cream, which I have likewise forbidden. His family are in better circumstances than most of the people who come here; in fact, he is not properly to be considered a beneficiary of this clinic, but has appeared here from time to time by special request, that I might be able to exhibit the character of his affliction and the progress he has made under the treatment.

He has used a spray made of the solution of borax and chloride of sodium, and has

taken now for nearly three months ten minims of the syrup of the iodide of iron in combination with glycerin and simple syrup after each meal, and has had no other treatment. His tonsils were neither cut, burnt, nor in any way treated by local application.

FOREIGN BODY IN THE EYE, CAUSING DISORGANIZATION, AND REQUIRING ENUCLEATION OF GLOBE.

J. H., of Washington County, Ky., æt. 29, was engaged in breaking rock on the turnpike, when a spall struck him in the left eye, penetrating the globe. Inflammation and severe pain followed. Poultices were applied; the lids became swollen, general suppurative inflammation of the globe set in, and he was in a pitiable condition. In this state he sent for Dr. Caldwell, of Bloomfield, who ordered the poultices removed at once, and, recognizing the grave nature of the affection, applied an infusion of poppies, and gave him a purgative followed by a good dose of quinine, which so improved his condition as to enable him to make the trip to Louisville. He arrived this morning, and I shall now proceed to administer chloroform and enucleate this eye, which, being wholly destroyed and of no further use to him, is at the same time extremely liable to provoke that most frightful disease called sympathetic ophthalmia in the fellow eye. This makes it urgently necessary that this one should be completely enucleated. (Chloroform being administered by Mr. Switzer, the conjunctiva was divided all around at the corneal margin, the tendinous attachments of the recti muscles were carefully severed, the optic nerve was cut close to the globe, the obliquii also were finally cut, and the enucleation was complete.)

The eye now being enucleated, as you see, I proceed to apply a pad of cotton-wool previously wrung out of cold water, which shall act as a compress to restrain hemorrhage, the aid of a roller bandage being employed. This will remain firmly in place for twenty-four hours, when it may be removed. If no pain occurs, it is perhaps best it shall remain for forty-eight hours. A small collection of pus may be found adhering to the compress, but by a little bathing in tepid water no further bandaging need be practised. This man can have an artificial eye within a week, and return to his home.

TREATMENT OF TRACHOMA.

Miss L., æt. 15, well developed, of good constitution, and has never taken any medicine; her lids are puffy; the eyes are morbidly sensitive to light; the balls are not red, as you see. She complains of headache in the morning, irregular appetite, and fears blindness. Everting the lids, the conjunctiva exhibits no sign of inflammation, yet it is studded over here and there with minute ovoidal bodies lying in the substance of the conjunctiva and presenting the appearance of rice-grains, clear and smooth. These bodies are crowded close together throughout the whole of that portion of the conjunctiva which lines the lids and the retrotarsal portion which connects the lining of the lid and the covering of the ball. The arches of the soft palate and the posterior wall of the pharynx are likewise studded with these minute bodies. She has no irritation of the throat. An important question arises here. This condition, from the appearance of the invaded membrane and the character of the bodies mentioned, is denominated trachoma. Many practitioners recommend the use of caustics; others insist upon the marvellous powers of ointments,—Prof. Seeley, of Cincinnati, being particularly clamorous for the introduction of an ointment made of the yellow oxide of mercury and vaseline. The long-continued course of treatment described by these gentlemen who advocate so earnestly special local methods led me long ago to doubt their value. In the absence of inflammatory action there can be, to my mind, no reasonable excuse for making stimulating applications to the conjunctiva. Mr. Marston described this condition as he observed it among the British troops in India. He studied it carefully, and came to regard it as one of the earliest manifestations of the presence in the system of what is termed malaria, or marsh miasm. He considered that the conjunctiva afforded the earliest indication for the use of the sulphate of quinine. His report is so interesting and so elaborate in detail that it will long be recognized as one of the classics in medical literature. This girl is constipated. She has a distinctly periodical headache. We shall give her five grains each of calomel and chlorate of potash in powder at once. At bedtime to-night she shall take fifteen grains of the sulphate of quinine. She shall take ten grains Tues-

day night and Wednesday night, and come here again on Thursday. The eyes are not to be medicated, inasmuch as the disease which has brought about the œdema of the lids and the morbid sensibility to light is constitutional in origin. There is no demand for local treatment. If I should be asked to name a manifestation of disease which will yield promptly to a routine method of treatment, I should name trachoma, and in the recent forms of it I should name the precise method of treatment suggested in this case. I am confident she will return here next Thursday very greatly improved, if not wholly cured of her trouble.

TRANSLATIONS.

Unusual Form of Urethral Stricture.—A man, 48 years of age, was brought into the Hospital Lariboisière in a condition of profound prostration. He stated, after much questioning, that he had urinated without any difficulty up to ten days before, but since that time he had not been able to urinate at all, although he had lost considerable blood by the urethra. Several attempts at catheterism had been made unsuccessfully during that time. The bladder was greatly distended, and was relieved of its contents by aspiration, after another attempt at catheterism had failed. It was found that there was an impermeable stricture in the membranous urethra, and that something grated upon the sound as the instrument was passed along the urethra. The urine was bloody and ammoniacal. The patient felt very cold, was drowsy; the tongue was dry. Rectal touch did not discover hypertrophy of the prostate nor tumor of the *bas fond*. The condition of the patient gradually grew worse, although the vesical puncture was performed twice daily. The patient finally became comatose, and died on the fourth day after admission. Upon examination, the urethra was found to have a deposit upon its mucous membrane, throughout its entire length, of a thin, yellowish layer, firmly adherent to the subjacent tissues, which under the microscope was found to consist of ammoniomagnesian phosphate. The stenosis was found at the place of election in the membranous urethra, where the tube was completely torn by the efforts at catheterism. The bladder was soft and friable at certain places. The ureters were a little dilated, and also the pelves of the kidneys, which were very much congested. The liver was fatty.—*Le Progrès Médical*, No. 32.

Treatment of Ulcer of the Stomach.—The treatment of gastric ulcer by lavage, or washing out the stomach, having been sometimes followed by hæmatemesis, M. Debove has advocated a new plan, in which this expedient is rendered unnecessary. The object of the treatment is to suspend entirely gastric digestion by means of large doses of sodium bicarbonate with the food, which is restricted to powder of beef (beef powder, 25 G.; sodium bicarbonate, 10 gr.), given three times a day (on account of the taste it is desirable to use a tube in administering the food), the patient also taking a couple of pints of milk daily. Under this treatment two grave cases, accompanied by atrocious attacks of pain, hemorrhage, and profound emaciation, which resisted other treatment, were rapidly cured. The reporter adds that no bad results have followed the comparatively large doses of alkali in any of the cases. —*Le Progrès Médical*, No. 28.

Treatment of Diphtheria with Vapors of Crude Turpentine and Norway Tar.—Dr. E. Masson reports a case of diphtheria treated successfully by Delthil's method,—*i.e.*, keeping the patient constantly in an atmosphere impregnated with vapor of coal-tar and turpentine, produced by throwing these agents on hot coals. Not having coal-tar, Dr. Masson substituted Norway tar and crude Venice turpentine. The two were mixed in equal proportions, and were placed in the same receptacle over an alcohol lamp. The vapors immediately commenced to come off, and the fumigation was kept up day and night until the child, 5 years old, recovered, after more than eight days' illness. The good effects were not very evident until the fourth day, when the false membrane disappeared; but the fumigation was kept up for five days longer, when treatment was finally discontinued. Although iron and potassium chlorate were used conjointly, the author attributes the favorable result mainly to the tar and turpentine.—*Rev. Méd. de la Suisse Romande.*

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 6, 1884.

EDITORIAL.

CROWNER'S QUEST LAW.

IN the case of strychnine-poisoning which we referred to in a former issue, where a young girl lost her life in this city from taking pills on a banter, the deputy-coroner has ordered the arrest of the druggist's assistant who dispensed the prescription, because he had not put a "poison" label upon it, and has held him under two thousand dollars' bail to appear at court.

The law of Pennsylvania (Act of Assembly of March 31, 1860) under which the deputy-coroner was acting, and which he doubtless thought justified the extraordinary step he has taken, reads as follows:

"No apothecary, druggist, or other person shall sell or dispose of, by retail, any morphia, strychnia, arsenic, prussic acid, or corrosive sublimate, except upon the prescription of a physician, or on the personal application of some respectable inhabitant of full age of the town or place in which such sale shall be made, and in all cases of such sales, the word 'poison' shall be carefully and legibly marked or placed upon the label, package, bottle, or other vessel or thing in which such poison is contained; and when sold or disposed of otherwise than under the prescription of a physician, the apothecary, druggist, or other person selling or disposing of the same shall note, in a register kept for that purpose, the name and residence of the person to whom such sale was made, the quantity sold, the date of such sale; any person offending therein shall be guilty of a misdemeanor, and, on conviction, be sentenced to pay a fine not exceeding fifty dollars."

It would seem to be evident enough to any unprejudiced mind that this law is merely meant to restrict the sale of poisons at retail, and was not designed to hamper physicians in the practice of medicine by frightening timid patients. If every package of medicine containing any of the above-mentioned ingredients were required by law to be labelled "poison," the very excess of caution would render it nugatory, because the warning label would be so common as no longer to attract attention. Moreover, unless the provisions of the law were made to include patent medicines and remedies dispensed directly by physicians, it would unjustly discriminate against those who send their prescriptions to drug-stores, and thus work an injury to both physicians and pharmacists. In short, if strictly carried out, it would entirely break up the prescription business of the druggist and reduce him to the position of a vender of nostrums and notions, and the physician, in self-defence, would be obliged to dispense his own prescriptions.

It is a bad wind that blows nobody any good: so, if this case is carried to court, as it should be, it will have the incidental advantage of eliciting a judicial decision as to the intent of the law, which, if subject to the construction given by the deputy-coroner, should be amended or repealed at the earliest moment possible.

Perhaps the case may also serve to direct public attention to the fact that the ancient coroner system has been outgrown by the community, and that the adoption of the medical examiner system, such as has been in successful operation in Massachusetts for several years, or the French system of having a chief coroner for the State, who shall be a physician and not a politician, is now imperatively demanded in the interest both of justice and of science.

SCHUYLKILL WATER.

ACTIVE measures at last have been instituted against the mill-owners and others who make the Schuylkill the depository of refuse and filth, the district attor-

ney having entered writs against them for maintaining a nuisance.

It is certainly right and proper that the water-supply of Philadelphia should be kept as pure as possible, and especially that it should be kept free from sewage-contamination. The evil is great enough, therefore, to warrant the agitation of the subject by the public press, although, in reality, the health of the city does not appear to sustain the statements regarding the extreme unwholesomeness of Schuylkill water, the death-rate of Philadelphia being the lowest of any large city in the world. The fact that water exposed to the air absorbs a large quantity of oxygen enables a large river to oxidize as well as to dilute organic matter to a point where it is comparatively harmless. The sewage that is discharged into the Schuylkill at Manayunk and above that place is probably more objectionable sentimentally than in fact. But there is another dangerous pollution to which our drinking-water is exposed, which has not received sufficient consideration, and which an intercepting sewer will not correct.

A number of years ago, attention was called to the fact that Laurel Hill Cemetery, on the east bank of the river, was becoming so crowded as to menace the purity of the water-supply of the city. A commission was appointed to examine into the subject, which reported that, by a beneficent provision of nature, the rocky strata underlying the graveyard were inclined away from the river, so that the drainage was diverted into another channel. This explanation was considered satisfactory at the time, but, since then, West Laurel Hill Cemetery has been opened on the *west* side of the river. Now, unless the strata dip in different directions upon the opposite sides of the river, the drainage from at least one of these burial-grounds will ultimately find its way into the reservoirs at Fairmount, especially after a heavy rain.

The researches of Selmi and others into the poisonous character of ptomaines, the alkaloids found in dead bodies, are sufficient to show the unwholesome character of such drinking-water, quite apart from the danger of its containing typhoid or other disease germs. Dr. Hardman* reports recently the death of a young girl, thirteen years of age, and the serious, though not fatal, illness of her sister, they having drunk from a spring coming from the foot of a hill which had long been used as a burial-ground. These patients both exhibited symptoms of blood-poisoning, with numerous abscesses. Another sister, who drank of the water some time before, had had a long illness resembling typhoid fever, but without any abscesses. It is said that when cattle used this water they were also made sick by it.

Comment on these cases is unnecessary, and the application is very obvious. To remedy existing evils, it seems evident that Philadelphia should seek a water-supply farther from such sources of contamination as have been named, and one over which she can exercise full control.

WE have noticed that some of our exchanges, in quoting from this journal, have not given its full title. To avoid confusion, we would beg that, whenever possible, this may be done by those who honor us by making abstracts from articles in these columns. Sometimes, of course, it may not be convenient or necessary to do so. For instance, the *Medical News* of last week gave an editorial abstract of a valuable paper by Dr. Pyle, and omitted to state that the original article appears in full only in the *Philadelphia Medical Times*, supposing that its readers are sufficiently intelligent to read the *Times* for themselves. In such a case, of course, any detailed reference would be entirely superfluous.

* The Atlanta Medical and Surgical Journal, August, 1884.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE British Medical Association has held its annual meeting this year at Belfast, among the Orangemen. Despite this fact and the known combativeness of Orangemen, the meeting was not characterized by the tumult which took place at the Liverpool meeting; nevertheless, all was not quite peace. The members were welcomed by Prof. James Cuming, the President-elect, who gave the opening address. Ulster, he said, was glad to have them as her guests. After giving a few data about Belfast in its sanitary aspect, he plunged into his address, and dealt first with micro-organisms. From these he proceeded to discuss "The Control of Pathological Research by Clinical Observation." He very truthfully observed, "A great deal of medical literature is founded on hospital practice, which, valuable as it is, wants the element of time. The floating population of hospitals passes rapidly from observation; and it is only from the medical men who have known patients for years, and often the stock from which they come, that we can get information which necessarily presupposes continuous observation spread over long periods." This enables them to recognize the difference between families, just as there is a difference betwixt nations. Velpeau said, in reference to the mortality of his operations, "The flesh of a Frenchman is not that of an Englishman." Changes, too, have passed over us. There is much less endemic disease than there used to be. He also held that a change has come over us,—if not "a change of type in disease," at least "a change of epidemic constitution," a matter all experienced observers seem to agree about. He then proceeded to discuss "symptoms," and held there was a tendency at present to regard disease too exclusively from an anatomical point of view. He quoted what Prof. Virchow said three years ago: "How has it come to pass that symptomatology has entirely lost the high position in which it stood little less than a generation ago, to such extent that in most universities it is no more taught as a specialty? Have symptoms no more any importance for the physician? Can a diagnosis be made without a knowledge of symptoms? Certainly not!" Prof. Cuming may seem antiquated to some when he said, "Medicine teems with instances in which anatomical change alone would lead us very far from the result which clinical observation indisputably establishes; and there is no lesson which experience teaches a physician more decisively than that it is not the extent or degree of an inflammatory affection which furnishes the most accurate measure of its danger or the most reliable indications for its treatment. Indeed, in dealing with many cases of disease, our question is not, Where is it? but, What is it? Is it gout, or syphilis, or malaria? and so on." This is good solid talk; the practice of physic is not mere physical examination plus testing the urine, though these are essential factors. Irish medicine, he asserted, had always taken the broad view of matters, quoting the late Prof. Stokes: "So far as medical experience goes, we are forced to admit that the foundations of the healing art must rest on another, if not a broader, basis than that of anatomical and of chemical changes in disease." He thought clinical evidence has been overborne by pathological theory in several directions. After referring to tubercle, he said, "In fact, while we ought to welcome every new method of investigation, while we ought to do nothing to discourage the boldest flights of pathological speculation, to us the crucial test must always be the clinical one, the facts drawn from the direct observation of morbid processes during life. And, in spite of any pathological generalization or anatomical induction, we must hold rigidly to our clinical facts, and decline to allow them to be warped and strained in the slightest degree." In short, he insisted that we must know something of our patients before our final interview with them in the dead-house. And if our profession exists for the benefit of suffering humanity, and not merely for our own benefit, it is impossible to disagree with him. The address in Medicine was delivered by Dr. William Ord, physician to St. Thomas's Hospital, who has made a study of the subject of his address, "On some Disorders of Nutrition related with Affections of the Nervous System." The first matter he discussed was the "Muscular Atrophy produced by Joint-Disease," giving some cases from Charcot. Then he spoke of "Chronic, Rheumatic, or Rheumatoid Arthritis as the Work of Nerve-Irritation;" then of "Joint-Lesion in Progressive Muscular Atrophy;" then of "Muscular Wasting coexistent with Joint-Disease," "Articular Dystrophy brought about by Irritation of Spinal Cord," "Observations of Senator and Others on the Nervous Production of Arthritis." "Digitorum Nodi" were next spoken of, in which he pointed out how nodosity of the joints ran along with marked hyperæmia of the os and cervix uteri. "Gonorrhœal rheumatism" was a term which he thought not nearly so good or so happy as Ricord's "blennorrhagic arthritis." He then related a case where a gentleman liable to gouty urethritis, without specific taint, had a sharp arthritis along with it. He spoke after that of "Neurotic Dystrophies of Secretion," and then of "Glycosuria in Relation to Nerve-Influence," on which he said, "As regards the onset of true diabetes, the frequent antecedence of great emotional disturbance of the central nervous system has

been recognized by general consent." He pointed to "gout and glycosuria" as often found together, and then to "Acute Inflammation of Diabetes and Nerve-Influence," concluding appropriately with "The Nervous Relations of Myxœdema," a disease with which his name is linked. The address in Physiology was delivered by Prof. Redfern, of Belfast, in which he dealt with "Progress in Physiological Science." He discoursed largely on lymph-spaces. In speaking of the liver he termed it "the largest living mass of protoplasm in the body; at one period employed in the production of blood-corpuscles, and then half the weight of the body. Originally formed upon the vitelline veins, and subsequently transferred to the umbilical and then to the portal veins, as each in turn becomes the recipient of the food-supplies, there can be no doubt that, whilst its function is mainly to make and maintain the blood, its method of action still involves great physiological secrets." Then he said, "The importance of the physiological arrangement by which the lung is irrigated by lymph from the pleural to the vesicular and bronchial surfaces has, I think, not been sufficiently appreciated." Finally, he reviewed the evidence as to how far other diseases than smallpox may be rendered less virulent by vaccination.

In the Obstetric Section the address was given by Dr. Kidd, of Dublin, who selected as his topic "Puerperal Fever," which he handled in a very complete manner. He thought it often showed itself in private practice before breaking out in hospitals.

In the Surgical Section the opening address was delivered by Sir William McCormac, the surgeon to St. Thomas's Hospital, so well known in connection with military surgery. He selected for his topics "Gastrostomy," "Radical Cure for Hernia," and "Thyroidectomy." In speaking of gastrostomy, he pointed out how great was the relief experienced by the patient on the operation being performed,—a matter which doubtless had a great deal to do with the patient's prospects after it. He regarded modern experience as justifying the operation of gastrostomy when the œsophagus is closed by a malignant growth. It is not well or wise to allow the patient to sink too low before resorting to the operation. Then he spoke of the removal of the thyroid gland,—an operation which is meeting with more approval than it once experienced. Dr. Clement Godson, assistant obstetric physician to St. Bartholomew's Hospital, gave the opening address in the Obstetric Section on "The Surgical Aspect of Obstetrics and Gynæcology." He protested against the view that the obstetrician should not "dabble in surgery:" he said that operations should not be forbidden to obstetricians, as they were by the rule still in force, even at his hospital, as he was liable to be censured if he removed a small vascular caruncle from the female urethra. This rule was objectionable, in his opinion. In the Section of Public Medicine Dr. Charles Cameron, M.P., discussed "The Cholera Microbe, and how to meet it." He thought Dr. Budd was right when he said sanitation by anticipation was the way to meet cholera,—"to be beforehand with the poison." Thorough disinfection of all sewerage was to be accomplished with "sulphate of iron in the drains lying in wait for the poison." Trap the microbe in a disinfectant, in plain English,—probably a very proper fate for the minute miscreant. In the Psychological Section, Dr. Savage, of the Bethlehem Hospital, gave a very interesting address upon "The Pathology of Insanity." He said, "The period of accumulation—the time of making fact-heaps—is not the period of highest culture, but it is a necessary period. The bricks must be made, and the rocks hewn from solid and resisting nature, before any secure and sheltering edifice can arise." He went on, "The time is not far distant when the terms *mania*, *melancholia*, and *dementia* will be merely used as are the words headache, vomiting, and albuminuria, referring to symptoms and not to diseases. I think diabetes, for many reasons, is comparable to insanity. Like it, the causation is doubtful. Like it, being a symptom, it is often taken for a disease." He thinks, too, "cases of insanity will be divided, first of all, into those where there is disorder of function, and, secondly, those where there is disease of the organ as well as disorder of function." He spoke strongly on the association of locomotor ataxy with general paralysis. He says of the latter malady, "That the cases in which syphilis has occurred suffer with symptoms of lateral sclerosis and mercurial tremor, suggests the idea that mercurial treatment might have something to do with the production of the symptoms. It is a thing to be considered, and the pathology may possibly be this, that the syphilis has impaired the nervous system, but the mercury has defined the lines along which the break-down is to occur." In referring to brain-"dissolution," as Hughlings Jackson terms it, he said, "Recently there was a patient in Bethlehem who for nearly a quarter of a century had kept a skeleton buried in his breast, a sad and burning wrong,—one he dared not trust to any one,—one affecting the honor of his name and of his children; no ray of light was ever allowed to enter the dark closet, till age, weakening and destroying the containing parts, exposed the skeleton in all its hideousness to every passer-by. His mind resembled a geological denudation: the past long buried was re-exposed." His address is one of the most interesting of them all.

Then there followed discussions on stated subjects, Prof. George Johnson, of King's

College, opening that on albuminuria, a subject with which his name has been associated for many years. He was followed by Dr. Balthazar Foster, of Birmingham, and others. It is impossible to give the lines of the discussion, but it may be stated that the old position that albuminuria necessarily means Bright's disease is rapidly being undermined, and that now it is being generally recognized that it is much easier to find albumen in the urine than to say what it means when found. Certainly it is most unnecessary in many cases to give it its worst significance. But what significance has it? asks the reader. A very natural question to ask; but it is sometimes easier to ask questions than to answer them. And each case of albuminuria has its own features; only, remember, the lineaments are not necessarily those in kidney-diseases. That, as Prof. Johnson insists, albuminuria has a grave significance at times, is certain enough. In the Surgical Section there was a discussion on the treatment of spinal curvatures, introduced by Lewis Sayre, of New York. Enthusiastic as Sayre is, with his heart in the subject, convincing as are his arguments, especially the results of his practice, the Britisher is intensely conservative and the impression made on his mind is readily effaced. Consequently, Sayre's work soon slips out of mind, with many, with, it must be admitted, untoward results to the patients of the oblivious doctors. Some good men, including the rising surgeon Charles B. Keetley, took part in the discussion. In another Section the subject under discussion was pulmonary emphysema; but the method of its production is of comparatively little value by the side of its consequences. In young people emphysema (vesiculare) is often largely compatible with the restoration of the affected portion of lung to a normal state; but in older persons the mischief once done usually remains, with little improvement. Prof. Gairdner, of Glasgow, spoke on the subject. This time a new Section appeared, under the presidency of Dr. Thomas Maclagan, of London, —viz., a Section devoted to pharmacology and therapeutics. The subject of interest here was the methods of therapeutic research, experimental and clinical. In Ophthalmology the treatment of immature cataract was discussed. Of course the tee-total element was in strong force. The late Samuel Bowley for years past has given a breakfast to the members of the Association and had a discussion on alcohol afterwards. Of late the tendency has been not so much to hear what the medical profession had to say on the matter, as to address the assembled members on a tee-total propagandism. Once more the anti-alcohol advocates aired their views, to their own satisfaction at least. Then there was a new feature: each morning early there was something to see by those who were willing to rise. One morning it was a drive, another a visit to a magnificent new ship. Of course, for those who have the energy, the strength and spirit, for such extra exertion, such early morning excursions are very enjoyable. But for hard-worked men on a holiday the Association week is hard enough, without any new demands upon the powers. That the Ulster men were hospitable goes without saying. That the dinner was a success is pretty certain. It is equally certain that a great deal of mutual admiration among those present might be expressed in the after-dinner speeches.

One thing certainly is of good omen, and that is the election of Dr. Balthazar Foster to the post of President of Council, the real working office of the little republic. Dr. Foster is one of the leading reformers in the Association, and his election means a further development of the power of the British Medical Association in a good and useful direction. Already it is getting strong in numbers and financially. It can pay its way, put by some savings, and yet encourage useful scientific work,—a contrast with its hard-up state of comparatively few years ago.

It is reported that some disparaging remarks were made about the inability of the Association to help the profession to anything it wants, and the break-down of the Medical Amendment Bill, which has once more followed its old fate,—to be given up, partly because the profession counts for nothing with politicians, not daring to assert itself, and partly because it is divided against itself, and its mischievous corporations refuse to die. But a consciousness that things are improving will encourage the different members of the profession to band together to get something done, and the Association is developing in strength and in energy. It is still waxing, and, when growth is ceasing, functional activity will follow; but growth is still actively progressing with it.

Then there were festive entertainments,—no small part of the annual gathering. There was the President's *conversazione* on the Wednesday evening, and on the Friday afternoon a reception by the mayor of the town in the Botanical Gardens, while on Saturday, as usual, there was no pretension of work: it was a "whole holiday" in earnest. Some went to the Giants' Causeway, by the electric tramway partly, while others went journeys along the coast in different directions,—all thoroughly enjoying the Irish scenery and the Hibernian welcome which met them on all sides. Whatever the Association may or may not do, it certainly does bring the different members of the profession from widely different parts together, so that an element of personal acquaintance is leavening the mass, which cannot be without its utility when the day comes that the profession dare demand from the public and the governing powers that position which it ought to have, and which it does not yet have accorded to it,—to

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a great extent because it does not assert itself, collectively and individually, as it ought to do, and which it will not get until it dare do so.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a meeting held June 11, 1884, W. H. Webb, M.D., read a paper entitled

REASONS FOR BELIEVING IN THE CONTAGIOUSNESS OF PHTHISIS.

The germ theory of disease is by no means a new theory. One of its earliest advocates was Athanasius Kircher, a learned German Jesuit, who lived in the early part of the seventeenth century; and about the same time lived Robert Boyle, an eminent Irish philosopher, who believed in the truth of this theory. The renowned Linnæus, the father of botany, was not only an ardent investigator of its claims, but published several memoirs in its support. In the latter part of the last century it had such supporters as Sir John Pringle and Dr. William Farr, and in the early part of the present century it had such advocates as Sir Henry Holland, Schönlein, Cagniard de la Tour, Schultze, and many others.

To the illustrious Pasteur, however, belongs the distinction of having done more than any of his predecessors to develop this intensely interesting and important subject, and of presenting its truths in such a way that they have become of immense practical use to mankind. His indefatigable labors, the ingenuity and exactness with which he pursued his investigations, the practical demonstrations he has given of the utility of the truths he has discovered, are well known to men of science. This special field of investigation is now occupied by many able and accurate observers, and as a result of their labors the present generation may witness an epoch in the history of medicine, startling in its brilliancy of grand achievements in subjugating disease; when men shall hold in their hands effective weapons and be enabled to erect impassable barriers before those destructive scourges,—cholera, yellow fever, and tubercular phthisis. But two years ago the medical profession was startled by the announcement made by Robert Koch,* of Berlin, that "Tuberculosis is a specific infectious disease, caused by a specific micro-organism, the bacillus tuberculosis, which constitutes, in fact, the tubercle-virus." Truly, since the time of the immortal Jenner we have not had such a remarkable statement, nor one so weighty in its import. There is no reason to wonder why medical and other scientific bodies, the world over, have this subject so frequently under consideration.

The work of Dr. Formad, of this city, as well as the work of all other investigators in this field of research, has seemed to confirm the statements of Prof. Koch. There is nothing more seductive than speculation regarding the outcome of their future labors, of the truths which shall belong to those who will follow us, and of the beneficent power these truths shall arm them with.

But it is only hard and intelligent work that can make this future a reality, and I am persuaded that the frequent discussions by our Society, of points connected with the study of germs as a cause of disease, will do much good, by stimulating the efforts of those members who are engaged in such investigations, and by enabling others who are interested in this work to make suggestions or offer criticisms that may be of some advantage to them.

In my paper this evening I purpose to limit myself to answering in the affirmative a question of great practical importance propounded by Dr. Formad in his recent paper,—namely, "Is Consumption Contagious?" Dr. Formad is disposed to answer it in the negative, and offers to you the names of a number of eminent physicians who apparently lend strength to his doubts concerning its contagiousness. For a number of years I have carefully studied this disease, and as a result of my observations I am firmly convinced that it is contagious. Indeed, the contagious character of the disease is generally believed in, and is taught by the most able and experienced clinicians of our day.

When a disease is unusually prevalent, it is very natural to suppose that it may be due to contagion or infection. Think, for a moment, of the ravages from tubercular phthisis. It exists in all climates; it affects all classes of people; it respects neither age nor sex. It claims about twenty per cent. of the death-rate of the civilized world. The mortuary lists of our own city show a percentage in its favor amounting to about fifteen and a half, and the native population of those latitudes most frequented by consumptives succumb to this dire disorder as frequently as people do elsewhere, except, perhaps, Colorado. Is this to be accounted for by heredity or pre-existing lung-trouble? If the disease was due to inheritance alone, it would have become obliterated generations ago by a species of natural extinction; but the disease is increasing in a greater ratio than the increase of population, which shows that the disease *must be acquired afresh.*

Dr. Formad, in his valuable paper, makes the statement that, "According to the observations of the most prominent clinicians who have paid special attention to this matter,

* Die Etiologie der Tuberculose. Berliner Klin. Wochenschrift, 1882, No. 15.

there is not a single authenticated case of tuberculosis as a result of contagion on record." This assertion is not tenable, since cases are recorded by C. B. Coventry,* S. G. Morton,† Daniel Drake,‡ Tauchard,§ H. I. Bowditch,‖ Vialettes,¶ Bergeret,** Hardy,†† Seux,‡‡ Condie,§§ L. Tait,‖‖ Stevens,¶¶ Bernard,*** Chamontin,††† Hermann Weber,‡‡‡ Flint, Sr.,§§§ Holden,‖‖‖ Reich,¶¶¶ Da Costa,**** Booth,†††† Bryan,‡‡‡‡ and many others. Is this not sufficient evidence that such cases are recorded? The fact that some of these names are better known than others does not militate against the honesty and care exercised by the less distinguished observers; and their deductions are justly entitled to a fair consideration. Obscurity does not by any means imply ignorance, or lack of ability and keen perception.

Dr. Formad also asserts that "Among scores of experienced men who deny thus the contagiousness of tuberculosis, it is sufficient to mention the names of Virchow, Recklinghausen, and Stricker, in Germany; Gull, William Watson, Paget, Humphry, and Richardson, in England; Bennet, in France, and Hiram Corson and Traill Green in our midst, —all men of close observation, with ripe experience extending over from thirty to fifty years." I also take exception to this statement, for Drs. Corson, Bennet, and probably many others mentioned in Dr. Formad's list, if heard from to-day, would not subscribe to this declaration, which finds fewer supporters than one might imagine to be the case. Some time ago I received a letter from Dr. Corson, in which he said, "Long since I advised my patrons not to have young daughters, who were compelled to wait on a consumptive mother, sleeping in the same room with the patient." This certainly shows that while Dr. Corson may not be a thorough convert to the contagion theory, yet he thinks it prudent to resort to preventive measures, by securing as much separation as possible of the well from the phthisical individual. And Dr. Bennet, who is also quoted by Dr. Formad, records the following typical case of contagion in his work :§§§§

"A strong, healthy, well-made husband, age 27, with no hereditary or constitutional taint or weakness, came over from Australia —a four months' journey—in the same cabin as his wife, who was in the last stage of suppurative phthisis. She died soon after her arrival in England, and he came to Mentone that winter a confirmed consumptive, dying himself subsequently. He was perfectly well when he stepped on board of the vessel at Australia, but in a small confined cabin breathed for months an atmosphere loaded with pus-particles thrown out of the suppurating cavities of his wife's lungs, possibly to his destruction."

After referring to the inoculating experiments of Buhl, at Munich, he makes the following statement: "But, in the face of the results that these researches have brought to light, *it seems to me impossible to deny that it may be communicated to the healthy by breathing constantly air saturated with the purulent secretions of advanced phthisis.* This is an all-powerful argument [I am still quoting Bennet] for the free ventilation of rooms occupied by the consumptive, for the sake of those who attend them and live with them, as well as for their own. In a confined atmosphere they probably poison themselves by their own fetid breath, and extend disease to the healthy regions of the lungs."‖‖‖‖ Can this be used to confirm the belief of Dr. Bennet in the non-contagiousness of phthisis, or is it evidence in support of the position I take? This is but one of many similar cases quoted by various authors, who are scarcely willing to commit themselves, while the evidence is so striking that they, like Dr. Bennet, feel constrained to express the possibility of a contagious element in their causation.

"Whatever has happened is capable of happening again: the only question relates to the condition under which it happens."¶¶¶¶ And what are the conditions under the present circumstances? This is exemplified in the following case, very similar to the one narrated by Dr. Bennet:

"A lady, about 30 years of age, the wife of an officer in the army, left Calcutta with her husband to go by sea to Southampton. At the time of leaving Calcutta *she* was in *robust health*, whilst he was in an advanced stage of consumption. They had a single close cabin, and she performed all the duties of a nurse for her husband. The weather was stormy, and the hatches were more than once battened down. The husband died off the Cape, and was buried at sea. About three days later the lady arrived at Southampton. I was

* U. S. Med. and Surg. Journal, New York, 1835, p. 392.
† Illustrations of Pulmonary Consumption, Phila., 1837, p. 80.
‡ Principal Diseases of the Int. Val. of North America, Phila., 1854, p. 915.
§ Thèse de Paris, 1860, p. 37.
‖ Boston Med. and Surg. Journal, 1884, p. 329.
¶ Thèse de Montpellier, 1866, No. 44.
** Annales d'Hygiène et de Médecine légale, 1867.
†† Bulletin de l'Académie de Méd., 1868, p. 348.
‡‡ Le Marseille Médical, 1869, No. 4, p. 310.
§§ Am. Journ. of the Med. Sciences, July, 1871.
‖‖ Ibid., October, 1871.
¶¶ Boston Med. and Surg. Journal, 1872, p. 168.
*** Thèse de Montpellier, 1872, No. 46.
††† Ibid., 1874, No. 22.
‡‡‡ Clinical Society's Trans., London, 1874, vol. viii. p. 144.
§§§ On Phthisis, Phila., 1875, p. 419.
‖‖‖ Am. Journ. of the Med. Sci., July, 1878, p. 145.
¶¶¶ Reynolds's System of Med., Am. ed., 1880, vol. ii. p. 116.
**** Am. Journ. of the Med. Sci., April, 1878.
†††† Trans. of Southern Illinois Med. Assoc., 1879.
‡‡‡‡ London Med. Record, 1880.

§§§§ On the Treatment of Pulmonary Consumption, Phila., 1879, p. 51.
‖‖‖‖ Ibid., p. 53. (Italics mine. W. H. W.)
¶¶¶¶ J. S. Mill, System of Logic, 9th ed., London, 1872, vol. ii. p. 144.

called to see her professionally. I found her with both lungs stuffed with tubercles, and she died in about six weeks afterwards. The painful duty was cast upon me of acquainting her with her condition, which I did, when she said, 'Impossible! I was never better in my life than when I stepped on board at Calcutta.' I knew the lady well, and all her family, and there was no hereditary predisposition. In this case all the necessary conditions for the propagation of the disease were fulfilled; *a high temperature* in a close, ill-ventilated cabin, where the exhalations from the diseased lungs were inhaled by the sound lung, with the wellnigh inevitable result I have described."*

Were these the only cases, we would think our point sustained. There are, however, but few physicians in our large cities who cannot recall cases in which they would rather commit themselves to a belief in the contagiousness of consumption than to ascribe its cause to anything else.

The following cases, due to contagion, have been communicated to the writer, and are worthy of record:

Dr. J. Solis Cohen has kindly furnished me with the following case:

"More than ten years ago, Dr. H., of this city, sent me a young female from the country in advanced phthisis, much emaciated, with aphonia from pressure of consolidated apex on right recurrent nerve. I gave her little encouragement, and sent her home with some general instructions. Some two years later she called on me, asking me if I remembered the last words I said to her; I did not, but she repeated them: 'Your best chance is to take cod-liver oil, live on it if you can, eat it with your bread, with anything.' She went home much depressed, became bedridden for a number of weeks. She subsequently married, her husband acquired phthisis, and died of it, and she was still living three or four years ago, with consolidated apices and cicatrized cavities."

Juan B. Mears, of Monterey, Mexico, communicates to my friend Dr. A. C. W. Beecher, of this city, the following case:

"A woman, suffering from the last stages of consumption, who, some year or two before, had adopted a girl. The latter's mother, Mrs. H., questioned me about the safety of letting her daughter remain with the afflicted person. I examined the girl, and found her strong and healthy, tall and well developed for her age (about 16 or 17 years old), without any hereditary predisposition. I told her that I feared no danger to the daughter if she would only take some ordinary hygienic precaution. Well, the old lady died, and a few months afterwards Mrs. H. brought the girl to me, already with an as acute phthisis as I ever saw, and she died too. Questioning them about the case, they attributed the malady to the companionship of the old woman; they slept in the same bed, ate from the same dishes, breathed the same air, infected, probably, by the phthisical débris. I must add that the people here believe in the actual contagiousness of phthisis."

The following case occurred in my own practice, and is also worthy of record:

October 7, 1880, I was requested to attend professionally Mr. H. F., aged 52 years, who had been ill for one year with phthisis. He died September 23, 1881. During all of Mr. F.'s illness he was most carefully nursed by his wife, who occupied the same room constantly; she contracted phthisis, and died August 3, 1882, aged 50 years. Mrs. F.'s mother died twenty years previously of phthisis; her father died at the age of 56 of cancer.

I may be permitted, in view of the few eminent names offered by Dr. Formad in support of his theory, to mention the names of a number of men of equal practical experience in medicine, who have recorded their belief in the contagiousness of the disease: Aristotle,† Galen,‡ Riverius,§ R. Morton,‖ Baumé,¶ Cullen,** Heberden,†† Darwin,‡‡ Coventry,§§ S. G. Morton,‖‖ Bright and Addison,¶¶ Dunglison,*** Andral,††† Drake,‡‡‡ Sir T. Watson,§§§ Copeland,‖‖‖ Dickson,¶¶¶ W. Budd,**** L. Tait,†††† Walshe,‡‡‡‡ Madden,§§§§ De Mussy,‖‖‖‖ H. Weber,¶¶¶¶ Holden,***** Da Costa,††††† Rühle of Bonn,‡‡‡‡‡ Lichtheim,§§§§§ Klebs,‖‖‖‖‖ Bollinger,¶¶¶¶¶ Flint,****** and many others could be mentioned.

* Brit. Med. Journal, 1883, vol. i. p. 21.

† Practical and Historical Treatise on Consumptive Diseases, by T. Young, M.D., London, 1815, p. 15.
‡ Paulus Ægineta, Syd. Soc., 1844, vol. i. p. 286.
§ Practice of Physic, London, 1668, p. 170.
‖ Phthisiologia, or a Treatise on Consumption, London, 1694, p. 67.
¶ Phthisie Pulmonaire, Montpellier, 1789, vol. i. p. 189.
** Practice of Medicine, Edinburgh, 1790, vol. ii. p. 390.
†† Commentaries on the History and Cure of Disease, London, 1802, p. 375.
‡‡ Zoönomia, Philadelphia, 1818, vol. i. p. 311.
§§ U. S. Med. and Surg. Journal, New York, 1835, vol. i. p. 389.
‖‖ Illustrations of Pulmonary Consumption, Philadelphia, 1837, p. 80.
¶¶ Elements of the Practice of Medicine, London, 1839, vol. i. p. 294.
*** Practice of Medicine, Philadelphia, 1844, vol. i. p. 365.
††† Notes to Laennec's Treatise on Auscultation, edited by Herbert, London, 1846.
‡‡‡ Principal Diseases of the Int. Val. of North America, Philadelphia, 1854, p. 915.
§§§ Principles and Practice of Physic, London, 1857, p. 217.
‖‖‖ Dictionary of Practical Medicine, New York, 1859, p. 1228.
¶¶¶ Elements of Medicine, Philadelphia, 1859, p. 625.
**** The Lancet, 1867, vol. ii.
†††† Amer. Journal of the Medical Sci., 1871, vol. ii.
‡‡‡‡ Diseases of the Lungs, London, 1871, p. 452.
§§§§ Dublin Journal of Med. Sci., vol. xl. p. 33.
‖‖‖‖ Brit. and For. Med. and Chir. Rev., April, 1870, p. 529.
¶¶¶¶ Clinical Soc. Trans., London, 1874, vol. viii. p. 144.
***** Amer. Journal of the Med. Sci., July, 1878.
††††† Ibid., April, 1878.
‡‡‡‡‡ Medical Record, New York, May 19, 1883.
§§§§§ Ibid.
‖‖‖‖‖ Ibid.
¶¶¶¶¶ Ibid., March 22, 1884.
****** Medical News, Philadelphia, Jan. 19, 1884.

Dr. Formad lays great stress upon the fact that the medical officers and attachés of the Brompton Hospital have not contracted phthisis. This would be the last place in the world to look for the disease as the result of contagion, for every one knows who has visited that hospital that hygiene and regimen are most scrupulously carried out to the highest point of excellence known, the nurses and other attachés being on duty only a portion of the twenty-four hours, and when on duty are not constantly in the wards. Compare this with the manner in which patients are cared for in private practice. The nurse, a member of the family or a friend of the stricken individual, generally occupies the same room, day and night, more especially in the advanced stage of the disease, and the hygiene and regimen do not, except in a few instances, receive proper attention; in some cases it is wholly neglected. Every crevice about the windows, and sometimes even the key-holes, as I have more than once seen, are plugged up, for fear a little fresh air might get into the room and the patient "take a cold."

As a rule, the nursing of the phthisical in private practice is unskilled, and the circumstances under which the nurses perform their office render them more liable to fall victims to the disease. Cases of phthisis due to contagion *have*, nevertheless, occurred at Brompton Hospital, for Walshe* makes the following statements in regard to his assistants:

"Curiously enough, of the first three clinical assistants I had at Brompton, two died of phthisis, and the third left the establishment with slight hæmoptysis, cough, and chest uneasiness. The latter is now (1871) in perfect physical condition; one of the former had clearly been affected before he came to the hospital; the other was a model of sturdy health when he took the office."

He says further,—

". . . I must confess my belief in the reality of such transmissibility has of late years been strengthened. I have met with so many examples of the kind that 'coincidence' becomes itself an explanation difficult of acceptance. I have, besides, in three instances seen a robust husband become distinctly and actively phthisical, as shown by general and local symptoms and physical signs, and, on the death of his phthisical wife, whom he had closely tended, fall into the retrogressive stage of the disease, and ultimately practically recover."

Hereditary influence in producing the disease is not as great as many believe, and all efforts have failed to prove by statistics the existence in a majority of the phthisical of an unfavorable tuberculous family record. Walshe† says, "The final conclusion flowing from the analysis of the family history of 446 persons is *that phthisis in the adult hospital population of this country is to a slight amount only a disease demonstrably derived from parents.*" "Of 374 cases occurring in old women at the Salpêtrière Hospital, reported by Piorry, 78 died without presenting any traces of tubercle, although their parents died from that disease."‡ Dr. Cotton, who analyzed 1000 cases at Brompton Hospital, found only 365 cases in which hereditary taint could be proved. Scott Alison's observations at the same institution show, in 603 cases, a hereditary influence in but 19. Walshe concludes, after most careful investigation, that not over 26 per cent. can be traced to hereditary taint. How, then, are we to explain the cause in the remaining, we will say, 60 per cent.? Are they to be traced to pneumonias, pleurisies, or kindred diseases? Or are we to conclude that there is a *specific poison* to which they may be exposed which produces this disease? I think there is,—in fact, there must be such a specific poison.

I will here give a hypothetical case, in order to show *the fallacy of hereditary transmission of disease:* A. B. is stricken with tuberculosis; the family are amazed at the announcement of the fact by the attending physician, and they state that the parents and grandparents are still living and enjoying good health. The family trace back to the third generation, and find that a great-grandmother died of phthisis, and this gives some satisfaction as to the disease being in the family. And if we go back three generations to find the cause for tuberculosis, why not go back four or five if nothing is found in the third? or, failing to find it in these, go back as far in the family history as tradition may extend, and, finding one ancestor who *probably* died of phthisis, to conclude that therefore the case we see is transmitted from that ancestor? This, to my mind, is absurd; and yet I know the tendency of family and physician (particularly the latter) to look for this in the transmission rather than in an acquirement in the individual *per se*. It is not sufficient to declare hereditary transmission, when even some of the children of phthisical parents, while partaking of their delicate constitutions (that is, delicate in figure and lacking ruggedness), will live to good round ages, and perish from other diseases.

I do not assert that exposure to the poison will produce the disease in all individuals any more than other zymotic poisons will, for there are many who are for the time at least insusceptible to their action, and this is owing to the fact that they present no proper nidus for the poison-germ, yet from this we are not to argue that the germ itself is less potent to an individual susceptible to it. The belief in

* Diseases of the Lungs, London, 1871, p. 459.
† Ibid., p. 462.

‡ Quoted by Dr. Durant, Trans. of the N. Y. State Med. Soc., 1871, p. 172.

the contagiousness of the disease is as old as its literature itself. As long ago as 1668, Riverius,* who for more than twenty-five years was professor of physic in the University of Montpellier, in speaking of the causes of phthisis, wrote as follows: "Moreover, there are external causes, as contagion, which is the chiefest; for this disease is so infectious that we may observe women to be infected by their husbands, and men by their wives, and all their children to die of the same, not only from the infection of their parent's seed, but from the company of him that was first infected. And this contagion is more easily communicated to those that are of kin; wherefore it is not safe for a brother or sister to enter into a chamber, for the *miasmata* or infective vapors, which come from their lungs and infect the whole air of the chamber, and being drawn in by others (especially if they are any way disposed to the same disease), beget the same disease in their lungs."

Not only among the members of our profession, but among all classes of people the belief is prevalent, especially in Italy, Southern France, Spain, Portugal, and Mexico. At the Canary Islands they look upon consumptives as little better than lepers, and they are kept in a species of quarantine, being subjected to many vexatious restrictions in regard to their intercourse with the indigenous population. This would serve to show that there must be some well-grounded reason for such belief, and it ought not to be regarded as superstition.

It is impossible to comprehend how a disease specific in its character and definite in its course can be transmitted from parent to child; how the germ comprising the complicated organism of man could develop from the microcosm into a highly complex creature, carrying with it the elements of destruction as a part and parcel of its structure. Such teaching is opposed to all known biological facts, and it seems that writers have fallen into the fashionable professional rut in searching for the etiology of many diseases, and in none more deeply than ascribing hereditary transmission, when in reality they should say an hereditary predisposition to certain diseases.

There are a number of authorities who hold the opinion that phthisis is transmitted from parent to offspring, and among the number is Sir William Jenner,† who states, "That tuberculosis is transmitted from parent to child, is one of the established facts in medicine." This is absurd. If the disease is transmitted, why does it remain latent for so many years? There is no such thing as the direct transmission of a tubercular virus from parent to offspring: this has been shown by such pathologists as Guizot, who, "in four hundred post-mortem examinations of the bodies of new-born infants, failed to find a single deposit of tubercle, and Gluge asserts that there is no born tubercle."‡ Tuberculosis to-day is the same, and manifests itself in the same manner that it did centuries ago. It reveals the same pathological appearances in one case as in another, and maintains its specific character under all circumstances. How then is it possible to harmonize known facts with the doctrine of hereditary transmission, when diseased parents and the east wind are equally effective in producing the same specific result? That constitutional peculiarities are not pathological needs no argument; and therefore our faith in their transmission need not be put upon the stretch in acquiescing in this belief. Nor is it to be denied that constitutional peculiarity may be acquired and still leave the body in a physiological condition. As an instance, most persons have a transmitted constitutional condition of body that may be infected by the virus of smallpox; this habit of body may be so altered, by vaccination or otherwise, that it cannot be infected, and still leave the body in a physiological condition. The susceptibility was transmitted and it is destroyed. On the other hand, the susceptibility may be acquired instead of being transmitted, so that he who was born constitutionally protected may become jeopardized if exposed to the infecting influence of the smallpox germ. Even in the propagation of this highly infectious disease two distinct factors are engaged, between which there is a perfect coadaptability, if I may so speak, for when they are brought together they combine to bring about a certain result, uniform in appearance and constant in character.

We have a marked illustration of the fact that certain modified conditions of the parents are not transmitted to the offspring in the case where parents have been vaccinated and yet there is no protection from smallpox in the child. This has been aptly compared to the soil and the seed. The earth could not bring forth fruit without the seed, the seed could not germinate and reproduce itself without the soil. The soil, in order to be productive, should be fertile, and the seed should embody within itself the elements of life. The condition of the body, like the condition of the soil, determines its efficacy as a factor and its relevancy to a specific result when joined to that other factor, the seed or germ, in the production of disease. The body is the soil for disease-producing germs. If the body does not offer a suitable nidus, the seed planted therein could not germinate, grow, bud, bloom, or fructify. This peculiar condition of various parts of the animal body which offers a suitable soil to disease-pro-

* Practice of Physic, London, 1668, page 170.

† The Practice of Medicine To-Day, London, 1869, page 48.

‡ Quoted by Durant, Trans. of the New York State Med. Soc., 1878, p. 174.

ducing germs is familiarly known in medicine as *predisposition*. It is that which is transmitted from parent to child,—the predisposition to certain diseases, and not the disease itself. A tuberculous parent may transmit this soil, this habit of body, this *predisposition*, to his or her offspring, but cannot, under any circumstances, at the same time transmit the seed in a dormant state already planted in that soil. Dissections, as already stated, have not revealed tubercles in the new-born. They may be born with many physical imperfections, but never with any trace of tuberculosis. The individual must be subjected to disturbing extrinsic causes before there are any evidences of tuberculosis, and, when such manifestations do occur, they are of a peculiar and constant kind. One case of tuberculosis is as much like another as one case of smallpox is like another of that disease. It would indeed be a strange coincidence, and one that could not be accounted for by any telluric or atmospheric influences, so variable in their nature and uncertain in their operation. When we observe a constant recurrence of symptoms and pathological changes in a series of cases, we naturally conclude that a specific cause is operating upon a peculiar condition of body to produce such a uniform result. It is evident that the offspring of phthisical parents sometimes escape the disease, for M. Pidoux states that "not over twenty-five per cent. of those born of consumptive parents themselves become phthisical."*

The predisposition is not only inherited, but is also acquired by the offspring of healthy parents: thus parents of non-phthisical children may themselves acquire the disease under conditions favorable to its development. It is not contended by those who believe in and know the fact of the contagiousness of phthisis that the disease is thus contracted as frequently as other infectious or contagious diseases are acquired; but I am free to say, however, that there is far more danger to be dreaded from nursing the phthisical in private practice than there is from nursing cases of typhoid fever. In the latter disease the *materies morbi* reside in the excreta, and by cleanliness the infectious element is promptly removed and the danger lessened. This is not the case in phthisis, for in that disease the *material cause* resides in the effete matter constantly being thrown off from the lungs of the stricken individual, especially in the advanced stage of the disease. This has been proved by Ransom,† who found the bacillus tuberculosis in the air of a room containing several advanced cases of phthisis. Dr. R. Charnley Smith ‡ detected them in a respirator worn by a phthisical patient, and Dr. C. T. Williams,§ by an ingenious method, has found the bacillus in fair abundance in the extracting flues at Brompton Hospital. The tubercular bacillus is characteristic, and can readily be discriminated from all other bacilli. It has been found in all the tubercular lesions of the organs and tissues of the body of the phthisical, including, of course, the osseous system and its medullary substance. It has also been found in all the secretions and excretions of organs similarly affected. It is a well-known fact that phthisis prevails to a great extent in most of the European armies, and this prevalence can only be accounted for by the contagious character of the disease. As an evidence of this, it might be stated that Surgeon-General Von Lauer,‖ of the Prussian army, has recently issued a circular to the medical officers, directing them not only to isolate the phthisical from the non-phthisical, but *that special means be taken for the disinfection of the sputa in tuberculous cases.*

"Sir William Wild,¶ in the Irish Census Reports for 1851, states that, in the years 1847, '48, '49, there died of phthisis in Ireland 66,000 persons, or 22,000 per year. This occurred before the tide of emigration to this country set in. So frightful a mortality can only be attributed to the crowding together of people obliged to breathe an atmosphere loaded with the germs of this disease.

It is well known that the red as well as the white blood-corpuscles sometimes leave the vessels and migrate through the adjacent tissues. They have even been seen to enter the vessels. These corpuscles, as is also well known, are from the $\frac{1}{3200}$ to the $\frac{1}{4000}$ of an inch in diameter. How much easier would it be for the *tubercle-bacillus*, which is generally described as varying in length from the $\frac{1}{12000}$ to the $\frac{1}{4000}$ of an inch, and having a breadth of one-fifth of its length, to escape from or enter the blood-vessels! It is through the medium of the lymph and the blood that these bacilli are carried throughout the system. The tubercle is developed according to, and is governed by, its own laws, as are the eruptions of smallpox, or the formation of false membrane in diphtheria; and who will deny that there is a *specific contagium* in the blood, in cases of these diseases, before such local manifestations occur? I hold that tubercle, as we know it, is never a primary product; it derives its origin from the action of a pre-existing *materies morbi*. The lymph or the blood carries the morbific material throughout the body, and certain organs attempt to eliminate the poison, but, failing to do so, become themselves the ground in which the poison accumulates. Why certain organs are more prone than others to become the receptacle of these de-

* Quoted by Dr. Durant, Trans. of the New York State Med. Soc., 1871, p. 172.

† A History of Tuberculosis. By E. E. Sattler. Cincinnati, 1883, p. 164.

‡ The Lancet, January 20, 1883.

§ Ibid., July 28, 1883.

‖ Sanitary Engineer, 1883, vol. viii. No. 20.

¶ Dublin, 1856, vol. i. p. 447. Also quoted by H. McCormac, M.D., "On Consumption," London, 1865, p. 225.

posits, I will not here attempt to explain. Perhaps the peculiar structure of the lungs, and the fact that all of the blood of the body must and does pass through them in great quantity and with great velocity, may be one reason why they are apt to be the seat of tubercular deposit, the softening and breaking down of which is the result of an inherent irritation of the *materies morbi:* this being a foreign matter, the lungs rebel against its presence and make an effort to cast it off. More or less perfect parallels are seen in the exanthems, where the skin becomes the eliminating organ,—in diphtheria, where elimination is by the mucous membrane, and in smallpox, scarlet fever, measles, and erysipelas, diseases each having its own peculiar and characteristic eruption, each respective disease being due to the presence and action of a peculiar characteristic *materies morbi* prior to the appearance of local symptoms. In the attempt at elimination or resistance to the invasion of these poisons we have the lesions so characteristic of them, and generally recognized as belonging to the disease. Do they constitute the disease, comprising both its cause and effect? By no means; they are but the expression or effect of the cause, precisely as tubercle in the lung or elsewhere is but the expression or effect of a pre-existing *materies morbi.*

The germs producing these diseases are not diseased germs; they are germs in perfect health as to themselves, and are capable of producing disease only where a nidus suitable for their development is found. It seems to me unnecessary to enter into any labored course of reasoning or offer any lengthened recital of examples, further than has been done in this paper. There is still a ring of mystery in the minds of some physicians about this whole matter. But when, in the near future, the smoke and dust have been made to subside by the great workers who are now engaged in this promising field of labor, and when all the avenues and by-ways are macadamized, so to speak, by their results, then will this much mooted and intricate subject be far on the way to a final settlement, and millions of lives saved annually from premature graves.

So thoroughly am I impressed with the importance of this question, and of the incalculable advantage a thorough understanding of its bearings must be to the members of my profession, that I feel that I have not consumed time unprofitably in my effort, however faulty it may be, to set before you the facts which have convinced me of the contagiousness of a so fearfully common and invariably fatal disease as tubercular phthisis.

MURDOCK'S LIQUID FOOD consists of the juices of raw meat and fruits. In chronic starvation in delicate women, or in apepsia of infants, it is highly useful.

REVIEWS AND BOOK NOTICES.

DISEASES OF THE THROAT AND NOSE, INCLUDING THE PHARYNX, LARYNX, TRACHEA, ŒSOPHAGUS, NOSE, AND NASO-PHARYNX. By MORELL MACKENZIE, M.D. Lond. Vol. II., Diseases of the Œsophagus, Nose, and Naso-Pharynx, with Index of Authors and Formulæ for Topical Remedies. Illustrated. Philadelphia, P. Blakiston, Son & Co., 1884. 8vo, cloth, pp. 550.

An accident, which entirely destroyed by fire the sheets of this second volume just as they were ready for binding, unfortunately still further delayed the completion of a work which has been earnestly looked for by the profession, and which has occupied the attention of its author for seven years.

As the first volume discussed the affections of pharynx, larynx, and trachea, so the second completes the consideration of the subject by taking up the disorders of the gullet, nose, and naso-pharynx. The "Diseases of the Neck" will be issued at some future time as a monograph.

The principal portion of the work is devoted to the disorders of the upper air-passages, which are discussed in a masterly manner. The text has been most carefully written, and abounds with references to recent work in this most active department of medicine, and there is displayed a familiarity with, and a desire to do full justice to, American work in this important field. The illustrations are sufficiently numerous, well selected, and well executed, and add very much to the value of this most admirable treatise, which in its completion fully meets the high expectations raised by the first volume. Without making invidious comparisons, we may say that, in point of scientific attainment, literary execution, and typographical make-up, this work of Mackenzie is most excellent, and leaves nothing to be desired.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE HEART. By CONSTANTINE PAUL, Member of the Academy of Medicine, Physician to the Lariboisière Hospital. Translated from the French. New York, William Wood & Co., 1884. 8vo, pp. 335.

This volume is an important one, and adds much to the value of the excellent series in which it appears. The subject-matter includes the familiar facts, but they are often presented from a novel point of view. The cuts are numerous and good, and the text is enriched, when necessary, with case-histories. We notice with regret the contrast between the amount of space devoted to diagnosis and that given to treatment. In pages they are respectively as 294 to 36. The contrast in style and matter is even more striking. It is difficult to understand how the author of the admirable first part could permit the second part to appear over his name. J. C. W.

GLEANINGS FROM EXCHANGES.

PTOMAINES.—Professors V. K. Anrep and A. V. Poehl, of St. Petersburg, sum up (*Vestnik Sudebnoi Meditziny ee Obshtchestvennoi Hyghieny* [*The Herald of Forensic Medicine and Social Hygiene*], 1884, vol. i. pp. 1–29) an interesting article based on their own investigations and a full review of the literature, as follows:

1. Putrefaction, fermentation, and other as yet indefinable alterations of albuminous substances are accompanied by the generation of alkaloid-like bodies,—ptomaines.

2. The number of ptomaines is very great, and their chemical and poisonous properties are very different.

3. There are known fixed and volatile, fluid and solid, amorphous and crystalline ptomaines. It is interesting to note that all fluid ptomaines, like all fluid vegetable alkaloids (with the exception of pilocarpine), do not contain oxygen.

4. Almost all ptomaines change red litmus to blue, and syrup of violets to green.

5. Like alkaloids, they form salts with acids, the formation proceeding without giving off water (again similarly to alkaloids and ammonia).

6. In regard to their solubility, ptomaines behave very differently, some of them being soluble in water, others in ether, alcohol, benzine, chloroform, and amyl-alcohol. Ptomaine salts are easily soluble in water.

7. Some ptomaines are tasteless and colorless; others possess an intense bitter taste or aromatic sweetish odor; and others again evolve a cadaveric odor or one resembling coniine or nicotine. When treated with acids, they sometimes emit a pleasant floral odor.

8. Ptomaines obtained from rye-meal which has been subjected to fermentation give the same reactions as the ptomaines of any other extractions. These reactions are as follows: (*a*) A solution of iodide of potassium with biniodide of mercury produces a whitish precipitate in a ptomaine solution slightly acidulated with hydrochloric acid. Twenty-four hours later, microscopic examination detects that the precipitate consists of minute prismatic crystals. (*b*) A solution of iodide of potassium with iodine being added to an acidulated ptomaine solution produces either a flocculent or a finely granular red-brown precipitate, which is insoluble in diluted hydrochloric acid. (*c*) A solution of phospho-molybdenate of soda gives a yellowish amorphous precipitate, which is insoluble in diluted nitric acid, but, on the addition of liquor ammoniæ in excess, at first takes a blue-green color and afterwards dissolves, giving either a bright blue or a green solution. The blue color is mostly observed during the first stages of putrid decomposition. The original precipitate produced by phospho-molybdenate of soda, on being heated, assumes a green color without any addition of ammonia. (*d*) Phospho-wolframic acid (prepared after Scheibler's method) gives whitish or grayish precipitates which are insoluble in diluted sulphuric and hydrochloric acids, but easily soluble in ammonia. (*e*) A solution of tannic acid gives a white precipitate; the latter does not appear if tartaric acid be present. (*g*) A solution of iodide of potassium with iodide of bismuth in presence of diluted sulphuric acid gives a yellowish precipitate, part of which passes into solution on heating and reappears again on evolving. (*h*) A solution of iodide of potassium with iodide of cadmium sometimes produces precipitates which are soluble in the excess of the reagent, and which by degrees assume a crystalline structure. This reagent precipitates the products of the first stages of putrefaction; later on in the course of the latter there appear some products which are not precipitated by iodides of potassium and cadmium. (*i*) In some cases, a solution of corrosive sublimate gives precipitates which gradually take a crystalline structure; in other cases, however, ptomaines are quite indifferent to their reagent. (*j*) A solution of chloride of platinum gives, with some ptomaines, precipitates which are usually crystalline and soluble in hydrochloric acid, and consist of a double salt (chloride of platinum *plus* chloride of ptomaine). Similar double salts are given by chlorides of gold and zinc.

9. Ptomaines are optically inactive bodies.

10. The color-reactions of ptomaines are as various as those of vegetable alkaloids.

11. In the course of a forensic chemical examination, it is advisable to discard the use of sulphuric acid, and to use tartaric acid. The further treatment is to be performed after Dragendorff's method.—*London Medical Record.*

EFFECTS OF REMOVAL OF SPLEEN IN THE DOG.—Since the celebrated experiments of Dalton, it has been taught with much positiveness that the removal of the spleen is followed in dogs by certain peculiarities,—morbid cravings, ravenous appetite, and more or less change of disposition,—but it would seem that this does not uniformly follow.

Dr. William H. Mercur reports (*Med. and Surg. Reporter*, May 31) the result of this operation upon a one-year-old poodle dog, belonging to Dr. W. J. Asdale. Ether having been administered, the spleen was removed entire; the pedicle was pierced in the centre and ligatured twice, and dropped back into the abdomen. The parts were then thoroughly cleansed, and the abdominal incision closed with six silver sutures, which were removed in two weeks, the wound having healed. The animal survived the operation nine years, living in the house of Dr. Asdale as a house-dog.

In this case, the reporter says, the operation did not seem to change his disposition;

he remained good-natured and thrifty. He developed rapidly, his weight at the time of his death being estimated at from twenty-five to thirty pounds, having gained at least ten pounds since he was a year old. He was a good, active watch-dog, a good feeder, never morose or sullen. The greater part of the time he was well nourished; his skin was clean, and his hair smooth and glossy.

He died suddenly, after being exposed to severe cold. The post-mortem was carefully made. The body was in good condition and not emaciated. The only pathological lesion found was a severe enteritis affecting the lower part of the small intestines, from which, in all probability, the dog died. His lungs, heart, kidneys, and all his other organs were perfectly normal. There was not the slightest trace of the spleen: nothing to denote its former locality, no remains of a pedicle, nor anything to show that nature had made the slightest attempt at restitution. Its origin was entirely obliterated.

Recovery of Motion after Resection of the Knee-Joint.—Mr. Boutflower recently exhibited before the Manchester Medical Society a boy, 7 years old, who had suffered with anchylosis at an acute angle, and pulpy disease, following strumous synovitis, for which he had opened the joint by the ordinary semilunar incision, removed the patella, excised the contiguous surfaces of the tibia, fibula, and femur, and scraped away the spongy synovial membrane with a Volkmann's spoon. After the operation, the wound was washed with a solution of chloride of zinc (gr. iv to ℥j), and the limb placed on a Watson's splint, the after-treatment being carried out under strict Listerian principles. The wound was quite healed by the fourteenth day, the dressing only having been removed three times during the treatment. The boy now walks about with facility, showing only a very slight degree of lameness in locomotion; the knee itself differs very little in appearance from a healthy knee-joint, notwithstanding that a considerable section has been removed from both the femur and tibia, as well as the entire removal of the patella.—*Lancet*, May 17.

Acute Inflammation of the Occipito-Atlantal Joints, accompanied by Pyæmia.—Mr. Ballard reports in the *Lancet* the case of a boy, 6 years of age, who, with a rigid neck, had some fulness, tenderness, and rise of local temperature on each side of the median line in the region of the occipito-atloid joints. He was ill nourished and anæmic; temperature, 100.5°. He had never been sick before, and the present attack had come on only four days before coming under observation, when he came home from school complaining of stiffness and pain in the neck. There was no family history of tubercle, rheumatism, or joint-disease. The swelling and signs of local inflammation increased so that incisions upon each side of the neck were made down to the transverse processes of the atlas. No pus was evacuated, but there was a free discharge of serum, which relieved the œdema. Subsequently effusions occurred in the left elbow-joint, and abscesses appeared on the surface of the body. Death occurred on the fifteenth day from the beginning of illness.

At the autopsy, there was found purulent effusion into the capsules of the occipito-atlantal joints, and these joints were completely disorganized; the cartilages had largely disappeared, and the surface of the bone was carious. That the disease was not primary in this location, but was secondary to some other injury undetected at the post-mortem examination, is possible, but not probable, for disease of the articulation existed for twelve days before constitutional infection was observed. In future cases Mr. Ballard has determined to interfere more actively by early evacuation of pus and drainage, with the methods of antiseptic surgery, which have revolutionized the prognosis and treatment of joint-affections.

Quinine Bisulphate.—The United States Army this year contracted for eight thousand ounces of bisulphate of quinine, and thus far has not bought any of the ordinary sulphate. The fact that the ready solubility of the bisulphate enables it to be dispensed in aqueous mixtures, as well as the equally well ascertained fact that this ready solubility renders its action more prompt and certain, are probably two of the chief reasons why this salt was given the preference. Outside the army the bisulphate has been steadily gaining in favor. It can be afforded at a price slightly lower than that of the sulphate, and, in equal doses, seems to be equally efficient. It contains from fifty-nine to sixty per cent. of alkaloid quinine, while the ordinary sulphate contains about seventy-five per cent. Should the experience of army surgeons be satisfactory, this soluble sulphate will probably be much more largely used in the future.—*The Druggists Circular.*

A Point in the Diagnosis of Strangulated Hernia.—Dr. Englisch, of Vienna, on examining the urine of patients under treatment for strangulated hernia, has ascertained that it always presents albumen in proportion to the duration of the strangulation. If surgical means be not adopted, the albuminuria continues until the death of the patient. The quantity of albumen is not affected either by the date of the hernia, the size of the sac, the frequency of anterior strangulations, nor by a febrile condition. When there is simple protrusion of the omentum, albumen is absent. Prof. Nothnagel attributes this albuminuria to diminished intravascular pressure resulting from the pres-

ence of a strangulated hernia.—*British Medical Journal.*

A CRITICISM FROM INDIA ON THE CHOLERA-BACILLUS.—The *Indian Medical Gazette*, in the course of an elaborate review of Koch's work and discovery, says, "A review of the whole evidence brought forward by the German Cholera Commission shows that they have only succeeded in establishing the fact that a peculiar form of bacillus is normal to the intestines of cholera patients; but the exact part which this organism plays in the morbid process is left wholly undetermined. Only a very moderate degree of probability has been made out in favor of this bacillus being the cause of cholera; but the futility of trusting to probabilities and conjecture in an etiological inquiry into cholera is generally well recognized. The problem, therefore, of the causation of cholera still remaining unsolved, it awaits and ought to receive that careful attention which its great importance demands." It is not fair to depreciate the value of Koch's discovery; but, on the other hand, it will do no good to give to it any greater weight than the evidence strictly justifies.—*Medical Record.*

VIRCHOW UPON THE CHOLERA- AND TUBERCLE-BACILLUS.—At the time of the return to Berlin and public reception of the Cholera Commission, Prof. Virchow made a speech, in which he uttered some timely words of warning. He said, "It appears to me that the government is not entirely free from the opinion that with the discovery of the bacillus everything is accomplished which may be necessary to control the disease. In this connection I may speak a warning word. It is more than thirty years since we discovered the little organism which causes the smallpox, but this fact has not changed in the least the practical measures previously adopted for its prevention. The tubercle-bacillus is a very important thing, but, with the exception of a new point of view of the disease, which is given, we are no further advanced in our practical relations to it." He then goes on to say that the cholera had for some time been practically treated as though it were caused by a special organism. He also referred to the laxity of the English in the matter of quarantine.—*Medical Record.*

RECOVERY FROM STRYCHNINE-POISONING.—At the meeting of the St. Louis Medical Society (*St. Louis Med. and Surg. Journal*, p. 179), Dr. Atwood reported a case of a man who had taken strychnine with suicidal intent. When seen, he was in tetanic convulsions, but inhalation of chloroform and a hypodermic injection of morphine and atropine were successful in relieving the spasm in about fifteen minutes. The patient then was rational, and stated that he had taken three grains of the poison about four hours before. The convulsions returned about three hours later, when the same treatment was adopted. Later he was given thirty grains of bromide of calcium and chloral hydrate, and the next day he was well, except that he was suffering from muscular soreness.

Dr. Atwood is the present editor of the *St. Louis Medical and Surgical Journal*, Dr. Thomas F. Rumbold having retired.

MISCELLANY.

THE DRUGGISTS CIRCULAR AND CHEMICAL GAZETTE has undergone a change of editors. It will be remembered that, a few years ago, Dr. L. V. Newton, who for nearly twenty years had occupied this responsible position, relinquished the duties to his associate, Mr. J. L. A. Creuse, who now, after several years' active labor, also finds himself obliged to retire, on account of failing health. The publishers have secured the services of Mr. Henry B. Parsons as editor, who brings with him many qualifications for the office. *The Druggists Circular* is a practical journal of chemistry as applied to pharmacy, arts, and sciences, and is a general business organ for druggists, chemists, and apothecaries: in its field it is unexcelled.

DR. JOHN B. CHAPIN, who was elected by the managers of the Pennsylvania Hospital to succeed the late Dr. Kirkbride as physician-in-chief and superintendent of the department for the insane (to accept which he resigned the charge of the Willard Asylum for the Insane in New York), has been installed in his new position.

Dr. Chapin is a gentleman of known ability, and is well qualified for his duties. The managers are to be congratulated upon securing the services of such an efficient and experienced alienist as Dr. Chapin, under whose administration the interests of the hospital and the patients will both be advanced.

NOTES AND QUERIES.

OBITUARY NOTICE.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,
WASHINGTON, D.C., August 20, 1884.

In announcing to the officers of the Medical Department the death of Joseph Janvier Woodward, Surgeon and Brevet Lieutenant-Colonel, U.S. Army, which occurred near Philadelphia, Pa., August 17, 1884, the Surgeon-General wishes to offer his tribute of respect to the memory of the deceased, whose distinguished career and valuable services for a period of twenty-three years have shed lustre on the corps, and for whose untimely loss feelings of profound regret will be shared alike by his comrades in arms and by the profession at large.

Dr. Woodward was born in Philadelphia, Pennsylvania, October 30, 1833, and was educated at the Central High

School of that city, graduating with honor as Bachelor of Arts in 1850, and receiving the degree of Master of Arts from the same institution in 1855.

He graduated in medicine at the University of Pennsylvania, April, 1853; entered the army as assistant-surgeon, August 5, 1861; became captain and assistant-surgeon, July 28, 1866; major and surgeon, June 26, 1876. "For faithful and meritorious services during the war," he received the brevets of captain, major, and lieutenant-colonel, U.S. Army.

He was assigned to duty in this office May 19, 1862, and from that date until the beginning of the illness which terminated in his death was intimately identified with its professional and scientific work.

While the valuable results of his life's labor are comprehended in a long list of miscellaneous publications, both professional and scientific, too familiar to the corps to require individual mention, his greatest triumphs were won in the field of microscopical investigation in normal and pathological histology, and in his happy application of photomicrography to the purposes of science. In these pursuits he attained remarkable success, and achieved an enviable, world-wide reputation, leaving to science and medicine lessons of undoubted value and usefulness. Of his strictly professional work, the medical portion of the "Medical and Surgical History of the War of the Rebellion" was the crowning achievement. In the second part of this work he developed the results of his careful investigations into the nature and pathology of the intestinal diseases which had proved so fatal in the late war. Here also he displayed his wonderful capacity for that minute and exhaustive research which forms so striking a feature of his writings.

As in the case of his co-laborer, Otis, he yields to other hands the honor of completing his labors.

In addition to his engrossing professional duties, his restless activity of mind led him to seek recreation in his favorite studies, physics, art, and philosophy.

Endowed with a retentive memory and of untiring industry, he acquired a vast store of information, which he held available for use at will; fluent of speech, he took delight in the expression of his views and opinions, both in social converse and in the arena of scientific debate.

His fund of knowledge, his strong convictions, his tenacity of opinion, and his quick perception made him a controversialist of no low order.

With such a record, it is needless to speak of his zeal, his ambition, or his devotion to his profession, and especially to the reputation of the corps of which he was so bright an ornament.

Of a sensitive, highly-strung, nervous organization, the confinement, anxiety, and labor to which he was subjected in his attendance upon the late President Garfield during his long illness proved too much for a mind and body already overstrained by incessant labor, and precipitated the illness which finally terminated his life.

At the time of his death, Dr. Woodward was a member and ex-president of the American Medical Association, a member and ex-president of the Washington Philosophical Society, a member of the National Academy of Science, of the Association for the Advancement of Science, of the Academy of Natural Sciences of Philadelphia, and of the College of Physicians and Surgeons of Philadelphia. He was an honorary member of several American and foreign scientific, medical, and microscopical societies, and the recipient of many distinguished honors from learned bodies in this country and abroad.

R. MURRAY,
Surgeon-General, U.S. Army.

TO THE EDITOR OF THE MEDICAL TIMES.

Dear Sir,—The accompanying statement of the recent action of the Obstetrical Staff and Board of Governors of the Maternity Hospital may be of interest to your readers.

Yours very truly,
J. V. INGHAM,
Ch'n Ex. Com. Maternity Hospital.

1342 SPRUCE STREET, PHILADELPHIA, August 27, 1884.

At a recent meeting of the Obstetrical Staff of the Maternity Hospital, the following resolution was unanimously adopted:

"*Resolved*, That the Obstetrical Staff of the Maternity Hospital desire, if agreeable to the Board of Governors, that a female resident physician be appointed to serve in the Maternity Hospital, the length of the term to be regulated by circumstances, not longer than one year."

This resolution was presented to the Board of Governors at their regular monthly meeting, held at the hospital, August 26, when they unanimously resolved,—

"1. That the Maternity Hospital should have a resident physician; and,

"2. That the resident physician must be a woman."

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 17, 1884, TO AUGUST 30, 1884.

HEAD, JOHN F., COLONEL AND SURGEON.—Granted leave of absence for four months. S.O. 201, A. G. O., August 27, 1884.

WOODHULL, A. A., MAJOR AND SURGEON.—Detailed as member of Medical Examining Board at U.S. Military Academy, West Point, New York, *vice* Captain R. H. White, relieved. Upon adjournment of the Board, to return to his proper station. S. O. 201, c. s., A. G. O.

LIPPINCOTT, HENRY.—Promoted to major and surgeon, to rank from August 17, 1884, *vice* Woodward, deceased.

BARTHOLF, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Columbia, and to report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 199, A. G. O., August 25, 1884.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 91, c. s., Department of Texas, extended two months. S. O. 198, A. G. O., August 23, 1884.

CRAMPTON, LOUIS W., CAPTAIN AND ASSISTANT-SURGEON.—To report at Creedmoor, Long Island, New York, not later than August 30, as competitor, and, in addition thereto, as medical officer of the detachment of competitors. S. O. 41, Division of the Atlantic, August 20, 1884.

TAYLOR, M. E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months, to take effect on arrival of a medical officer at David's Island, New York, to replace him. S. O. 200, A. G. O., August 26, 1884.

COCHRAN, J. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at the Presidio of San Francisco, California. S. O. 81, Division of the Pacific, August 16, 1884.

BIRMINGHAM, H. P., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted one month's leave of absence. S. O. 162, Department of the Missouri, August 12, 1884.

WILSON, GEORGE F., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Walla Walla, Washington Territory, and to take station at Vancouver Barracks, Washington Territory. S. O. 120, Department of the Columbia, August 13, 1884.

DIETZ, WILLIAM D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at the Military Academy, West Point, New York, and ordered to the Department of the Missouri for duty. S. O. 202, A. G. O., August 28, 1884.

FISHER, W. W. R., FIRST LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Cochran, to report in person to commanding general, Department of Arizona, for assignment to duty in that department. S. O. 81, c. s., Division of the Pacific.

MCCAW, WALTER D.—Appointed Assistant-Surgeon, with rank of First-Lieutenant, to date from August 20, 1884.

LIST OF CHANGES OF STATIONS OF NAVAL MEDICAL OFFICERS FROM AUGUST 17, 1884, TO AUGUST 30, 1884.

P. A. Surgeon P. M. RIXEY, orders to U.S. steam-ship "Lancaster" revoked. To continue on special duty.

Medical Director C. MARTIN, to be retired August 21, 1884.

Surgeon T. C. HEYL, detached from U.S. steam-ship "Independence," ordered to U.S. steam-ship "Adams."

Surgeon J. G. AYERS, detached from U.S. steam-ship "Adams," placed on waiting orders.

Assistant-Surgeon L. W. CURTIS, detached from U.S. steam-ship "Adams," placed on waiting orders.

P. A. Surgeon F. B. STEPHENSON, detached from Navy-Yard, New York, ordered to Coast-Survey steam-ship "Bache."

P. A. Surgeon E. Z. DERR, detached from Coast-Survey steam-ship "Bache," placed on waiting orders.